

ENVIRONMENTAL QUALITY COUNCIL

REVENUE OVERSIGHT COMMITTEE

REPORT TO THE 48TH MONTANA LEGISLATURE
ON THE SOCIO-ECONOMIC IMPACTS OF LARGE-SCALE
HARD-ROCK MINING
PURSUANT TO HJR 66

NOVEMBER 1982

HARD-ROCK MINING SUBCOMMITTEE

ENVIRONMENTAL QUALITY COUNCIL

Rep. Dave Brown, Chairman

Rep. Dean Switzer

Sen. Mike Halligan

Mr. Dennis Nathe

REVENUE OVERSIGHT COMMITTEE

Rep. Jay Fabrega

Rep. Herb Huennekens

Sen. Jack Galt

Prepared By:

John Carter, EQC Staff Researcher

James Oppedahl, ROC Staff Researcher

Bruce Finnie, Consultant - ECO-Northwest

ACKNOWLEDGMENTS

The EQC/ROC Hard-Rock Mining Subcommittee gratefully acknowledges and wishes to express sincere thanks to the many helpful persons who stimulated valuable discussions throughout the study.

Special thanks is given to the Montana Mining Association and the Montana International Trade Commission for their generous contributions which made it possible for the Subcommittee to employ the professional consulting services of Eco-Northwest.

LIST OF TABLES

	PAGE
1 Distribution of Mining Employment	14
2 Mining and Processing Employment	14
3 Montana Mining Employment	15
4 Comparison of Net and Gross Proceeds	22
5 Taxable Net Proceeds of Mines	24
6 Comparison of Impact Estimates and Projections	29
7 Comparison of ASARCO and Anaconda Employment Figures ..	41
8 Population Influx Per Mine Job	47
9 Participation (Non-Local)	47
10 Population Influx Estimates	47
11 Relative Impact	48
12 Average Local Expenditures	49
13 Total Expenditures County, School, and City	50
14 Total Taxes Generated	53
15 Net Revenue	57
16 Total Expenditures and Revenues	58
17 Gross Proceeds and Taxes Paid	61

LIST OF DIAGRAMS

1 Comparison of State Taxation of Copper	26a
2 Comparison of State Taxation of Platinum	26b
3 Comparison of State Taxation of Gold	26c
4 Local Development Impacts	43
5 Revenue Sources, Property Tax/Gross Proceeds	51
6 Revenue Impacts on Local Governments	60

TABLE OF CONTENTS

APPENDIX

SELECTED BIBLIOGRAPHY

PREFACE AND BACKGROUND

HOUSE JOINT RESOLUTION 66

In June 1981 the Environmental Quality Council (EQC) was assigned the task of studying the hard-rock mining industry of Montana pursuant to House Joint Resolution 66. To accomplish this task an EQC Hard-Rock Mining Subcommittee (HRMS) was formed. Since the study was to involve complex taxation issues, the EQC invited the Legislature's Revenue Oversight Committee (ROC) to participate in the study. The joint EQC/ROC Hard-Rock Mining Subcommittee is comprised of Rep. Dave Brown, D-Butte, Chairman; Rep. Dean Switzer, R-Richey; Sen. Mike Halligan, D-Missoula; Dennis Nathe (public member), Redstone; Rep. Jay Fabrega, R-Great Falls; Rep. Herb Huennekens, D-Billings; Sen. Jack Galt, R-Martinsdale.

In order to encourage participation from interested persons throughout the state who are affected by or who are likely to be affected by large-scale hard-rock mineral development, the Subcommittee conducted numerous public meetings in Helena and in communities that are, or are likely to be, associated with hard-rock mining.

At each of these meetings the public was encouraged to express concerns, experiences, and expectations relative to hard-rock mineral development. The Subcommittee also invited the public to comment on and participate in the actual deliberations of the Subcommittee. This input has played a significant role in shaping the Subcommittee's understanding of the facts and issues surrounding hard-rock mining. All of the written comments to the Subcommittee are found in Appendix 1. Verbal comments are incorporated into the Subcommittee minutes and are available upon request.

Below is a synopsis of the Subcommittee's discussions and deliberations at each of its public meetings.

October 2, 1981; Helena This meeting was principally designed to gain input from interested persons in order to define the scope and emphasis of the HJR 66 study. The main points of the meeting were the following:

- o The HRMS expressed concern for the fact that the 1981 Legislature failed to appropriate funds for the operation of the Hard-Rock Mining Impact Board created by HB 718. A spokesman from

the Governor's office indicated that this matter would likely be resolved through an appropriation request in the special legislative session scheduled for November 1981.

o The HRMS expressed a need to gather information relative to the study directly from persons likely to be impacted by mining. It was decided that subsequent meetings should be held in Troy, Stillwater County, and Butte/Whitehall and that these meetings should consist of working sessions as well as public hearings.

o Staff was directed to provide information on how the present taxation of the hard-rock mining industry operated, and how the revenues were being used.

o Staff was directed to investigate the issue of whether or not monies collected under the Resource Indemnity Trust Tax could be used to mitigate the socio-economic impacts of mining.

o Staff was directed to review HB 718 for the purpose of identifying potential problems with its application.

November 17, 1981; Helena This meeting resulted in the adoption of a final study plan for HJR 66 and commenced the examination of hard-rock mining taxation. The main points of the meeting were the following:

o Staff proposed, and the HRMS adopted, a study plan for carrying out HJR 66.

o The HRMS discussed the need to identify what the policy of the State of Montana is relative to the mining industry and this was included in the study outline.

o Staff presented a memo to the HRMS which explained for what purposes the funds collected under the Resource Indemnity Trust Tax could be used. It was stated that such funds could be used to mitigate socio-economic impacts of hard-rock mining. For further clarification, the HRMS requested an opinion on this matter from the State Attorney General.

o The HRMS discussed two major areas of concern with HB 718, one being the need to provide a mechanism for amending economic impact plans and the other dealing with the objection procedures under HB 718. Staff was directed to study further and report on these and other issues regarding HB 718.

o Staff presented the HRMS with a memo explaining generally the federal and state taxation of hard-rock mining in Montana. The HRMS then directed staff to conduct a comparison of the effective tax rates that different types of minerals in the state are exposed to. A comparison of Montana's tax structure with that of other states was also requested.

February 11, 1982; Columbus This meeting included a working session primarily devoted to taxation matters and several informal discussions

with local citizens. The main points of the meeting were the following:

o Staff presented a statement to the HRMS that sought to describe the present policy of the State of Montana relative to hard-rock mining.

o Chairman Brown informed the HRMS that he had recently contacted the U. S. Bureau of Mines, Minerals Availability Office to request its assistance with the HJR 66 study. It was explained that the Bureau, through the use of computer modeling, had the capability of assessing the effects of Montana's taxation of the mining industry. The Bureau would hopefully be able to conduct a comparative analysis of Montana's mineral taxation system with that of other states.

o Staff presented the HRMS with information explaining generally the components of the overall tax system in Montana - comparing it with other states in the nation.

o Chairman Brown reported that an opinion from the Attorney General concerning the use of Resource Indemnity Trust funds had been issued stating that such funds could be used for the mitigation of social and economic impacts of mining.

o The HRMS agreed to solicit funds from private organizations in order to hire a consultant to provide assistance with the HJR 66 study.

o James Tolley, Hard-Rock Mining Impact Board member, reported on recent meetings of the Board.

May 5 - 6, 1982; Butte/Whitehall These meetings included a working session that focused on problems with HB 718 and mineral taxation, informal discussion with local citizens, a tour of the Placer Amex and Anaconda Mining Company facilities, and a meeting to select a consultant to participate in the HJR 66 study. The main points of the meetings were the following:

o Staff presented an outline of problems identified in HB 718 which were discussed in detail by the HRMS and the interested public.

o Several consultants who responded to a Request for Proposals made verbal presentations to the HRMS consultant selection committee. The final consultant selection however was deferred until a more thorough review of the proposals could be conducted.

o Chairman Brown announced that the Bureau of Mines had agreed to provide its services to the HRMS and that some of the work had in fact already been completed. Efforts were said to be underway to develop three hypothetical mining scenarios that would be used to examine Montana's taxation of the mining industry.

June 9 - 10 - 11, 1982; Helena, Troy, Libby These meetings included the final selection of a consultant for the HJR 66 study, continued

analysis of HB 718, informal discussions with local citizens, and tours of the ASARCO and W. R. Grace mining facilities. The main points of the meetings were the following:

- o Having reviewed the written proposals from the consultants and having heard verbal presentations from seven of these, the HRMS selected the firm of Eco-Northwest to assist its staff with portions of the HJR 66 study dealing with taxation and the fiscal impacts of mining on local governments.

- o Staff presented the HRMS with a revised outline of HB 718 which was used as the basis for a detailed analysis and discussion of the act. Several amendments were proposed to remedy difficulties that were identified within the law.

July 8 - 9, 1982; Helena These meetings were entirely devoted to taxation matters and included a presentation by a representative of the U. S. Bureau of Mines on the Bureau's recently completed mining tax study. The main points of the meeting were the following:

- o Staff presented memoranda to the HRMS which provided background information on hard-rock mining taxation in the eight states that are examined in the Bureau of Mines report.

- o Robert Davidoff of the U. S. Bureau of Mines Minerals Availability Office presented a report on his study which compared the tax treatment of mining in Montana with that of seven other western states.

- o Based on the Davidoff study, the HRMS concluded that Montana generally appears to impose a slightly greater tax burden on hard-rock mineral developers than do other western states. The HRMS also found that Montana's tax system, which is not based on mining profitability, tends to collect disproportionately greater revenue from the industry when economic conditions are unfavorable than when conditions are positive.

- o The HRMS agreed to examine some alternatives for restructuring Montana's existing tax system in order to shift some of the burden from marginal or sub-economic operations to profitable ones.

- o Staff was directed to examine the possibility of creating a state royalty on hard-rock mining in lieu of some existing taxes. The HRMS explained however that any such royalty would have to provide a "life line" support system for local governments as well as making it possible for the state to "share" in the mining profits when they occur.

August 31, 1982; Helena This, the final meeting of the HRMS prior to the issuance of its draft report, included a presentation from consultant Bruce Finnie and resolved most unfinished business of the Subcommittee relative to HB 718 and mining taxation. The main points of the meeting were the following:

- o The Montana Mining Association presented the HRMS with its recently completed report on the taxation of the mining industry in Montana.

- o Staff presented a revised report on HB 718 - problems and proposed solutions.

- o Staff was directed to examine the jurisdictional mismatch problem and seek to devise a feasible remedy.

- o Bruce Finnie (Eco-Northwest), HRMS consultant, reported on the fiscal impacts of mining on local government units and stated that generally the total revenue generated from a mine will exceed the total local government expenditures resulting from the mine.

- o Staff presented memoranda on the pros and cons of various types of metal mining taxes, on the history of mining taxation in Montana, and on several specific mineral taxation questions.

- o A number of proposals to adjust Montana's hard-rock mining taxation system were studied by the HRMS.

November 22, 1982; Helena This meeting included a public hearing on the draft HRMS report issued earlier in November and a working session devoted to solving the jurisdictional mismatch problem and developing appropriate amendments to Montana's mineral taxation system. The main points of the meeting were the following:

- o Staff was directed to amend the draft report to reflect all changes that the HRMS felt were necessary in light of comments received at the hearing.

- o Staff was directed to draft two proposed bills designed to correct the jurisdictional mismatch problem. One was to involve the substitution of a state level impact tax for existing local property taxation of mineral developments while the other would require that the property tax base of a mineral development be shared among affected local governments and then taxed the same as other property.

- o Staff was directed to draft five bills incorporating proposals from HRMS members to amend the present mining taxation system.

January 6, 1983; Helena This, the final meeting of the HRMS, consisted of an executive session held for the purpose of reviewing and adopting the HJR 66 study report complete with recommendations to the 1983 Legislature.

House Joint Resolution 66, adopted by the 47th Legislature, requested that an interim committee be assigned the tasks of determining the most effective means of responding to the social and economic impacts of hard-rock mineral development and examining mineral taxation and other related issues. This legislative concern over socio-economic impacts stemmed from the fact that development of mineral deposits may cause an influx of people into local areas of development significantly greater than the number of individuals directly involved in mining operations. Such rapid population growth could increase the demand for local government facilities and services, and may create a burden for the local taxpayer. The potential burdens are most pronounced during the stage of mine development. During that period, the total workforce is highest and yet increases in local tax bases are not yet sufficient to offset costs. In addition, some local government units may experience increased service demands and never enjoy an increased tax base. These, as well as other potential problems, constitute the basis for Resolution 66. The Resolution specifically provides that the interim committee shall:

1. Consider:

- (a) alternatives for most effectively meeting the increased capital and operating costs to affected local governments in the initial stages of the development and how these measures will be funded,
- (b) procedures for dealing with cumulative and ongoing impacts resulting from large-scale mineral development coupled with development of other resources or with multiple-mineral developments,
- (c) a means of resolving how impacts will be fairly and accurately determined,
- (d) whether existing statutory provisions for pre-payment of property taxes is an effective means of dealing with impacts,
- (e) whether the state should receive additional revenue from large-scale mineral development through severance taxes or other sources,
- (f) the time frame in which planning for and meeting impacts will occur,
- (g) the most effective vehicle for administering, overseeing, and enforcing the program for meeting impacts, and

- (h) alternatives for most effectively meeting any impacts experienced with the closure of a large-scale mineral development.
- 2. Consult with representatives of the hard-rock mining industry, local governments, appropriate state agencies, and other interested citizens in conducting the study and developing recommendations.
- 3. Submit to the 48th Legislature a report of its findings, together with recommendations for providing the most effective means of responding to social and economic impacts resulting from the increased development of hard-rock minerals.

EXECUTIVE SUMMARY

This study addresses among other things, the basic question: Does a mine cover its costs? In other words, given the existing level of taxation, are revenues and expenditures balanced at the local level? The findings are as follows:

- o Total local tax revenues will generally exceed expenditures - the typical mine will pay for itself.
- o Some local jurisdictions, usually counties, will enjoy a revenue surplus, but other jurisdictions will experience a deficit. In particular, cities and elementary school districts may experience a shortfall since revenues and expenditures are not always generated in their jurisdictions.
- o Even though a mine may more than meet its costs, there is a need for a more equitable distribution of revenues among affected government units on the basis of where expenditures (impacts) are actually experienced.
- o Imperfections in how revenues and expenditures are distributed between cities, towns, counties, or schools are due to inadequacies in public policies and/or the current organization of local governments. This problem however is not unique to the minerals industry.
- o Mining impacts can be effectively mitigated within the context of the current tax system if fair and equitable distribution of revenue is accomplished. No new taxes are necessary to satisfy the state's goal of offsetting social and economic impacts.
- o Remedial measures designed to ensure a more equitable distribution of revenues among affected jurisdictions may result in an increase in the total property taxes paid by mineral developers.
- o To ensure fair mitigation of impacts to local government units, some refinements to existing legislation (HB 718) are necessary.

CHAPTER 1 INTRODUCTION

1.0 STATEMENT OF PURPOSE

Mining has always been one of Montana's most important sources of primary jobs and income. Although the overall economic influence of the industry is less today than in the past, mining still represents one of the state's most likely sources of future growth.

Montanans have long been aware of the "visible" boom and bust cycle associated with mining. Mining, unlike most other forms of economic activity is by nature very site specific, employing a considerable amount of resources (both human and capital) within a very concentrated area. Mines also are not permanent, with an economic life generally of between 10 to 40 years. Even though the life of other businesses may often be shorter, the impacts associated with the development or closure of a mine tend to be more noticeable than the creation or loss of an equally significant number of jobs in other economic sectors where change is both more gradual and more dispersed.

Mining is different from most other types of growth in the sense that employment levels are comparatively high, growth impacts rapid, and the life of the operation "known" to be constrained by ore grade, reserves, and technology. That is, a mine's life can generally be predicted whereas the life of other businesses cannot be so readily determined. Additionally, some types of mining may leave a footprint on the physical environment after closure. It must be noted, however, that other large-scale developments may have comparable effects.

Several large mine proposals in the Stillwater Complex in southcentral Montana, as well as other possible developments in other areas of the state, have prompted the Legislature to consider the costs and benefits of such projects. Since large-scale mining operations frequently result in rapid population growth, there is a need to adequately plan for such growth and mitigate associated adverse impacts.

Rapid growth may in certain areas place a considerable strain on the ability of local governments and school systems to finance public services. The potential burden may become severe in those situations where the demand for public services increases without a corresponding increase in the local tax base. This study seeks to provide policy makers with information pertaining to:

- o The historical development and future of mining in Montana.
- o The likely range of population impacts that will be associated with mining developments.

- o The range of revenue and budget impacts that local government will face.
- o The affect of taxation policy on the profitability of mining operations.
- o The problems and advantages associated with mining developments, and
- o The mitigation of negative impacts in a manner equitable to both local communities and to the industry.

1.1 OUTLINE OF DISCUSSION AND ANALYSIS

The analysis is divided into the following parts:

- o The history and future of hard-rock mining in Montana.
- o A review of mineral taxation issues and problems in Montana.
- o A case study of the ASARCO and Stillwater Complex mines.
- o A discussion of general factors which influence local impacts.
- o An example of the simulated range of impacts for a model mine.
- o A discussion of the problems with current mitigation (HB 718) legislation.
- o Conclusions and recommendations.

CHAPTER 2 HARD-ROCK MINING IN MONTANA

2.0 HISTORICAL DEVELOPMENT OF MONTANA - INFLUENCE OF MINING

It is perhaps appropriate that the Montana State Seal contains the words "oro y plata" (gold and silver), and displays the tools of an early miner. To this day, mining, Montana's original industrial sector, still remains prominent.

Heavy immigration to Montana came with the discovery of gold in the early 1860's. Bannack, Montana's first territorial capitol, was founded on one of these original gold discovery sites. The Territory of Montana was created by Congress in 1864 to, among other things, provide accessible government for the early mining populace.

By the 1870's, the early placer gold camps began to falter and there came about a shift toward hard-rock mining. This lead to corporate organization, capital improvements, better transportation, and generally a more orderly business environment.

During the early 1900's, the populations of Butte and Helena were 60,000 and 20,000 respectively. Both cities developed a reputation for affluence. During this early period, the Anaconda Company employed more than 13,000 people; amounting to about three-fifths of the wage earners in the entire state. However, the technology of the day was to mark one of the darker periods of Montana's economic history - an image or fear which may still be present today. The following quote by D. MacMillan vividly illustrates how this era was viewed by many Montanans.

"Practically all the vegetation in the town [Butte] and on the surrounding hillsides had disappeared by 1890. At times the smoke became so thick the citizens literally groped their way around. For days at a time the city would be wrapped in a dense cloud of smoke. Carriages had to be driven slowly for fear of knocking down pedestrians. Railroad engines collided with one another in the switching yards. Trolley cars had to creep through the city ringing their bells constantly; at night the conductors walked ahead of their trolleys with lanterns in their hands. Workers would lose their way going or coming from work."¹

The census taken in 1890 reported that total state employment in mining, smelting and refining exceeded 8,400 persons. Seventy percent of this work force was employed in gold and silver operations. Approximately 2,000 were engaged in copper

¹ D MacMillan, Environmental Pollution in Montana; Mountain Press Publishing Company, Missoula, 1972.

productions.² By 1909, employment in the metal mining and smelting industries had grown to approximately 21,000.³ Metal mining employment alone was reported to be 16,587.⁴ Among the miners, 85 percent (14,251) were producing copper with the number at work in gold and silver mines down to 2,336.⁵ Interestingly, in 1909, coal mining employed 4,800 workers, four times the current (1982) level.

Most of the copper production occurred in Butte, which by 1910 had a population of 39,165, making it the largest city in Montana.⁶ Smelters operated there and in Anaconda and Great Falls. The 1910 Census noted that a heavy degree of centralization existed in the copper industry, where 71 percent of the wage earners worked for five Butte corporations.⁷ In 1910, the leading copper-producing firms were consolidated into the Anaconda Copper Mining Company. From that time on, the history of metals production in the state was synonymous with the history of The Anaconda Company.

2.1 DECLINE OF THE INDUSTRY - POSSIBLE RESURGENCE?

The mineral industries, mining and the processing of mineral products no longer play an overwhelmingly important role in Montana. Where in 1909 they represented approximately 27,000 jobs, they now provide less than half that number.

2 U.S. Department of the Interior, Census Office, Report on Mineral Industries in the United States at the Eleventh Census: 1890 (Washington, DC: US Government Printing Office, 1982), pp 59 and 155.

3 Another 4,800 workers were employed in coal mines that year.

4 U.S. Department of Commerce, Thirteenth Census of the United States Taken in the Year 1910 Mines and Quarries, vol. 11, Table 7, p. 111.

5 U.S. Department of Commerce, Thirteenth Census of the United States Taken in the Year 1910: Mines and Quarries, vol. 11, Table 7, p. 111.

6 U.S. Department of Commerce, Bureau of the Census, Fourteenth Census of the United States Taken in the Year 1920 Population, 1920, Number and Distribution of Inhabitants, vol. 1 (Washington, DC: U.S. Government Printing Office, 1921, Table 48, p. 84.

7 U.S. Department of Commerce, Thirteenth Census of the United States Taken in the Year 1910: Mines and Quarries, vol. 11, Table 3, p. 109.

Like many other resource based industries, mining has been a slow growth activity and may remain so throughout the century. Further, rapid technological changes in the industry have sharply reduced labor requirements per unit of output. This has reduced the number of available jobs and has adversely affected mining communities throughout the nation.

Both the overall employment level and the inter-industry mix of employment have undergone dramatic change. Until 1950 metal mining employment was significantly larger than in any other sector of the mineral industry in Montana. Since the mid 1950's, substantial losses have occurred in this sector, amounting to over 6,000 jobs. This has been a serious loss for the state, particularly in the Anaconda and Butte areas. The population of Silver Bow County, for example, has decreased approximately 20 percent since 1950, a decline which has not yet halted.

To summarize, a significant decline has occurred in the metals industry. This is partly because metal mining is dependent on national and world demand for its products. Competition from producers in other parts of the country and the world as well as from other materials, has forced extensive changes in Montana's metals operations. The shift from underground to open-pit mining, in particular, has greatly reduced labor requirements and helped keep Montana copper competitive. At the same time however, this has decreased employment substantially.

Tables 1-3 show comparatively recent employment data for various types of mining within Montana. When reviewing Table 1, the reader should note the relative decline in the importance of hard-rock mining in comparison to total mining employment. Since 1950, one of the earliest years for which Montana Department of Labor data exist, hard-rock mining declined from 51 percent of total mining employment to approximately the 15 percent it is at today. Smelting and refining have also experienced major declines over this same period. Although total employment in the mineral industry has remained generally stable since 1960, this stability is the result of rapid (recent) growth in oil and gas exploration and to a lesser extent coal development.

Table 2 shows that the decline in statewide metal mining employment was almost entirely related to reductions in The Anaconda Company employment levels. Since 1950 Anaconda Company employment has fallen from 9741 workers to approximately 800 during the summer of 1982. Even though copper and related processing employment has sharply declined, other types of hard-rock mining have grown. Table 3 illustrates that approximately 400 new hard-rock (non-copper) jobs were created between 1970 and 1980. Interestingly, most of this increase was found in small mining operations employing less than 50

employees. Since 1980 the ASARCO mine in Troy has also come on line employing 340 workers. Placer Amex (Whitehall) will also be opening a gold mine within the year, employing approximately 75 workers. With ASARCO, Placer Amex, and the growth in relatively small operations during the 1970-1980 period, total hard-rock mining (excluding The Anaconda Company) has increased by approximately 900 jobs, a very sizable addition to Montana's economic base.

TABLE 1
DISTRIBUTION OF MINING EMPLOYMENT

	1950	1955	1960	1965	1970	JUNE 1982
Metal Mining	51.0%	48.0%	37.2%	37.7%	32.3%	15.4%
Primary Metals	26.1%	24.6%	31.4%	29.5%	37.9%	12.3%
Oil and Gas *	15.0%	22.3%	25.6%	23.8%	23.4%	55.4%
Other	7.8%	5.1%	5.8%	9.0%	6.4%	16.9%
Total Employment	15,300	17,500	12,100	12,400	12,400	13,000
Metal Mining	7,800	8,400	4,500	4,600	4,000	2,000
Primary Metals	4,000	4,300	3,800	3,600	4,700	1,600
Oil and Gas *	2,300	3,900	3,100	2,900	2,900	7,200
Other	1,200	900	700	1,100	800	1,100
Coal	N/A	N/A	N/A	N/A	N/A	1,100

* Note: Includes refining

Source: Montana Department of Labor and Industry, 790 series.

TABLE 2
MINING AND PROCESSING EMPLOYMENT

	Metal Mining (1)	ACM (2)
1950	7,800	9,741
1955	8,400	N/A
1960	4,500	6,040
1965	4,600	6,398
1970	4,000	5,942
1975	3,100	5,096
1980	1,900	2,933
1981	2,300	N/A

Sources (1) Montana Department of Labor and Industry, 790 series
(2) The Anaconda Company

TABLE 3
MONTANA MINING EMPLOYMENT

	1970	1980	Change
Metal Mining			
Copper	3,749	1,275	- 2,474
Other (1)	199	628	429
Non Metal Mining	786	849	61

Source Bureau of Economic and Business Research, University of Montana, unpublished data.

(1) Note: Includes mining services

(2) Note: Current (September 1982) copper employment is approximately 800.

2.3 FUTURE PROSPECTS FOR GROWTH

Hard-rock mining has often been touted as Montana's growth source of the future. While this may be true, no one really knows what the future will bring since we can only look at past trends and speculate about the future.

Before speculating, however, it is important to consider some general perspectives about the influence of mining. During the 1970's, which was a period of relative prosperity and economic growth in Montana, most growth (over 75% of all employment and population increases) was attributed to expansion in coal, oil and gas, wood products, and tourism. Hard-rock mining played only a limited role, with the exception of the Butte/Anaconda area where the growth of mining was negative. While more recent mineral expansion in the Troy and Whitehall areas has occurred, it is important to realize that the overall (or statewide) growth impact of mining has been relatively minor.

The relative impact of future hard-rock mining, however, may be more important. First, the growth sources of the 1970's may change; i.e., coal, oil and gas, wood products, and tourism probably won't experience the same increase that took place during the 1970's. Second, possible increases in hard-rock employment in the Stillwater, Bull Lake area, Clancy district, and other potential areas, may result in major growth sources, particularly at the local level.

While even the best of predictions are not that reliable, as witnessed by the expected growth boom in coal during the early 1970's that never materialized, the hard-rock employment prospects now include the following:

POTENTIAL NEW JOBS BY 1990
(Estimate)

Stillwater	500
Jardine	200
Clancy	100
Bull Lake	400
Other	???
Total	???

If these possibilities do materialize, resulting in some 1000+ jobs, the prime effect will be local in nature but, nevertheless, very important for the state.

2.4 STATE POLICY TOWARD HARD-ROCK MINING

While the policy of Montana regarding the extraction of hard-rock minerals is not stated expressly in the laws of the State of Montana, an implicit policy can be gleaned from pertinent statutes. The following is an integrated compilation of language from Montana law which seems to constitute a de facto policy toward hard-rock mining.⁸ This should provide a fair and appropriate backdrop for an examination and analysis of the state's actual treatment of the hard-rock industry.

The extraction of hard-rock minerals is a basic and essential activity in this state which has a profound impact, both beneficial and adverse, upon all components of the human environment. While this activity contributes to the economic welfare of the state and nation, it cannot occur without the disturbance of the earth's surface and subsurface, the production of waste materials, and the disturbance of social and economic structures within the state. In recognition of these facts, [it is the policy] of this state to allow for the development of hard-rock minerals when such development can be conducted in a manner that prevents unreasonable depletion and degradation of natural resources, ensures the protection of the environmental life support system, and minimizes the adverse social and economic impacts on local government units. In order to achieve this policy objective, it is necessary to require that developers of hard-rock minerals reclaim all lands and surface waters involved in mining to the extent practicable to allow for their subsequent beneficial use, provide security against loss or damage to the environment, and provide mitigation of social and economic impacts resulting from large-scale mineral developments.

⁸ Article IX, Montana State Constitution; Resource Indemnity Trust Tax. 15-38-102 et seq; Montana Environmental Policy Act, 75-1-103 et seq; Metal Mine Reclamation Act, 82-4-301 et seq; Hard-Rock Mining Impact Act, 90-6-301 et seq, MCA.

CHAPTER 3 TAXATION POLICY

3.0 INTRODUCTION

Edmund Burke, the British statesman, orator, and writer, once observed that

To tax and to please,
No more than to love and be wise,
Is not given to men.

The difficulty of forming tax policy has been recognized by many generations of public policy makers since Burke uttered his statement in 1774.

Montana taxation policy makers have struggled with the problem of creating a 'pleasing' taxation system with regards to mining activity since the very beginnings of the state. The problems in doing so have been exacerbated by differing perceptions about mining taxation.

3.1 POINTS OF VIEW

Historically in Montana there have been two fundamentally different perspectives on the manner in which metal mines are taxed. The differing points of view are illustrative of the substantial confusion that exists relative to mining taxation in the state.

The first point of view was ably expressed by Mr. C. F. Kelly, vice-president of the Anaconda Copper Company in the early 20th Century. In an address before the Montana Joint Legislative Committees on Tax Investigation in 1918, Mr. Kelly argued:

"So far as the surface of mining property is concerned, it is precisely in the same situation as is any other real estate, taxed at a price commensurate with its value for purposes incidental to the working of the mine...every dollar's worth of property that is placed upon the surface of a mining claim, whether it is machinery, a mining improvement, a building, or what not, is under the law taxable as is all of the property in the state. Now I submit as a fundamental proposition that when you have taxed the surface of a mining claim at its full value for the purpose for which it is used, or is capable of being used, and when you have taxed the improvements that have been made upon that surface, you have gone as far in the matter of taxation as the law reaches any other class of property in this state."

In Mr. Kelly's view, the imposition of a net proceeds tax constituted the imposition of an additional tax upon mining property that other classes of property did not have to bear.

A different position on mining taxation was expressed by Louis Levine in his book Mine Taxation in Montana. Mr. Levine argued that since the Montana Constitution forbade the local tax assessors from incorporating the value of mineral deposits with the value of surface land there was a fundamental difference between the assessment of mines and other property. Mr. Levine argued that:

.. "to make up for this [difference], the Constitution and the laws of Montana provided for the assessment of net proceeds. The tax on net proceeds is not in addition to the taxes on surface and improvements. It is merely a device for obtaining as nearly as possible the true value of a mine. The law simply implies that a mine is a form of property, totally different from other kinds of property; that it is impossible to assess it in the manner in which land or banks or gas companies are assessed; and that it is necessary, therefore, to have recourse to a different device which should be as well adapted to this form of property as possible. The device is to assume that the true value of a mine equals approximately the net proceeds of the year plus the nominal price paid for the surface and the value of the improvements."

These perspectives, one that mines are treated differently than other property and singled out for additional taxation; the other that they are not treated differently at all, have been at the center of the public debate about mining taxation in Montana.

3.2 MINING TAXATION IN MONTANA - A BRIEF OVERVIEW

The argument between Messrs. Kelley and Levine did not begin in 1918. In general, there appear to be four phases to Montana mineral taxation policy. The phases often overlap. During territorial days, mines and mining claims were usually exempt from taxation. Property tax was not collected on the value of minerals in the ground during most of this period.

From 1889 to 1924, taxation of metal mines occurred primarily at the local level using a net proceeds method to value minerals. All other mining property was taxed in the same manner as other property in the state.

A third phase began in 1925 with the imposition of state taxes based on gross mineral revenues. This phase included the creation of the Metalliferous Mines License Tax and the Resource Indemnity Trust Tax.

A fourth phase began after adoption of the 1972 Montana Constitution. After 1972 the Legislature began to adjust

property taxation of mines from a net to a gross proceeds basis. Metal mines were changed to the gross proceeds basis in 1977.

3.3 CATEGORIES OF MINING TAXES IN MONTANA

On the broadest level, there are two kinds of taxes on hard-rock mining in Montana: state taxes and local property taxes. On the state level, two taxes are exclusively imposed upon mining activities; the Metalliferous Mines License Tax (MMLT) and the Resource Indemnity Trust Tax (RITT).

Both of the state level taxes are imposed against a percentage of gross mineral value. The MMLT is calculated using a graduated rate with a maximum of 1.438% of gross value. The RITT is imposed at a flat rate of .5% of gross value. Both the MMLT and the RITT act as state level income taxes, the former allows no deductions and the latter allows only limited deductions.

The other major type of mineral tax in Montana is the property tax. Mines pay property taxes in two ways. First, real and personal property on the surface is taxed based upon the same assessment procedures common to other real and personal property.

Mineral values are taxed differently. The value of minerals is assessed each year on the basis of 3% of the gross value of metals extracted in the course of the previous year's mining activity. This value is added to the taxable value of the taxing jurisdiction in which the mine is located. The local mill levy then is applied to determine the tax due.

In an area where the levy is 220 mills, for example, the effective tax rate for the gross proceeds property tax would be .66% of gross product value ($\text{gross product value} \times 3\% \times .220 = .66$). Another way of looking at this is that the tax, at the mill levy rate of 220, would be 66¢ for each \$100 of mineral product value. At 400 mills, the tax would be \$1.20 per \$100 of value.

3.4 PROS AND CONS OF VARIOUS TAXES

It seems fair to say that there is considerable debate as to the exact effects of taxation upon mining activity. Generalizations are dangerous since there are many factors that enter into mining company decisions and the formation of public policy. Sandra Blackstone, writing in the Colorado School of Mines Quarterly (vol. 75, #3) notes:

"The economic effects of different types of taxes must be considered on almost a case by case basis, depending on the particular mineral involved, the characteristics of the deposit and the firm, and the market conditions for that mineral at any particular time."

While some caveats are necessary, it is possible to make generalizations. Sandra Blackstone has summarized the economic effects of state taxation of mining activities. The following is a summary of her conclusions plus additional considerations from various sources:

Income Taxes

The mineral industry generally prefers income taxation to other forms of taxation because it is based upon profitability. It, therefore, has the least effect on direct or indirect costs until the break even point is reached. From a resource conservation point of view, income taxes have less effect on raising ore cut-off grade i.e., in reducing economically recoverable ore reserves. Income taxes also have the advantage that they do not adversely affect mineral operations during periods of unfavorable economic conditions.

A criticism of the income tax is that it rewards inefficient operations. From a government revenue collection point of view, the tax is criticized because it fluctuates with market conditions and the state of the economy. Stability of revenue under this tax can be a problem.

Property Taxes

There are two approaches to property taxation of metal mines. The first involves establishing the value of the mine based on annual gross income, net income, or some other income measure. The other method involves determining the present value of future earnings on the mineral deposit.

Both approaches involve arguable assumptions about the best method of establishing the 'true market value' of the mineral deposit. Property taxes based upon gross or net income have economic effects similar to those of an ad valorem severance tax.

The method that determines the present value of future earnings represents an additional fixed cost of operation and has the effect of raising the ore cut-off grade. This tax is less desirable than others from a resource conservation standpoint. The tax discourages exploration and development of reserves ahead of actual mining. From a government revenue standpoint it provides a stable source of property taxes. The tax, however, is hard to administer and requires complicated assessment techniques.

Severance/Production Taxes

To the extent that severance taxes represent an additional variable cost of operation they tend to raise the cut-off grade of ore. The higher grade requirements will tend to

lower the total level of mineral recovery and marginal grades of ore may become waste instead of being mined.

Severance taxes based upon unit production tend to be more discriminatory against low-grade ores. The ad valorem severance tax discriminates primarily against ores with high mining costs. Severance taxes in general discriminate against less profitable mines since the tax does not vary with mining costs.

On the positive side, severance taxes do not discourage exploration and development of mineral reserves and operations are not penalized when production is curtailed due to adverse economic conditions.

Severance taxes are relatively easy to administer and can be specifically aimed at mining activity. The severance tax serves to compensate the state for the loss of a natural resource. Assuming that the tax is high enough to increase prices and decrease consumption, the tax can have the effect of conserving resources. Severance taxes administered at a state level can equalize the tax burden between taxing jurisdictions. The tax can also solve problems of unequal distributions of wealth and need for social services.

3.5 RECENT CHANGES IN MONTANA

As noted earlier, for nearly a century, property taxes for Montana metal mines were based on the net proceeds of the value of ore produced each year. Net proceeds were defined as the gross value of a mineral produced less: 1) all royalties; 2) all expenditures for labor, machinery, and supplies; and 3) the cost of improvement, repairs, and expansion.

Because declared costs of production varied widely, local governments could not rely on metal mines as a steady revenue base. In Silver Bow County, for example, the taxable value of copper net proceeds varied from \$0 to \$15,789,844 in the years from 1956 to 1976. In six of those years, the county received no net proceeds tax at all.

Under the pre 1977 net proceeds approach, allowable deductions occasionally exceeded the gross revenue of the mine. For example, in 1976 copper prices were at .6535¢/lb., - the second highest level in 20 years. Allowable deductions for the Anaconda Company, however, totaled 127.1% of the gross value, so the company had no net proceeds and paid no property tax on its production.* (See Table 4).

Besides the issue of tax stability the net proceeds tax was difficult to administer - the Department of Revenue could not easily identify expenses that were legitimate deductions.

TABLE 4
COMPARISON OF NET & GROSS PROCEEDS
CONSTANT 1967 DOLLARS

Year	Net Proceeds (000)	Anaconda Company Deductions as a % of Gross Proceeds Since 1957	3% of Gross (000)
1923	\$ 9,582	NA	\$ 3,049
1924	9,845	NA	2,731
1925	8,056	NA	1,477
1926	17,670	NA	2,932
1927	8,491	NA	2,768
1928	1,441	NA	2,329
1929	10,386	NA	3,053
1930	24,657	NA	3,810
1931	1,305	NA	2,001
1932	290	NA	1,254
1933	0	NA	520
1934	0	NA	727
1935	25	NA	693
1936	7,611	NA	1,632
1937	8,980	NA	2,193
1938	21,191	NA	3,406
1939	92	NA	1,428
1940	3,582	NA	1,992
1941	12,231	NA	2,825
1942	3,812	NA	2,829
1943	NA	NA	NA
1944	NA	NA	NA
1945	1,909	NA	2,180
1946	1,245	NA	1,332
1947	246	NA	997
1948	4,397	NA	1,733
1949	7,158	NA	2,182
1950	1,651	NA	1,980
1951	3,157	NA	2,043
1952	7,313	NA	2,653
1953	1,651	NA	1,980
1954	3,460	NA	2,847
1955	2,086	NA	2,139
1956	10,218	NA	3,397
1957	9,510	93	3,905
1958	0	111	2,675
1959	1,695	98	2,058
1960	3,970	94	1,949
1961	1,914	97	2,108
1962	1,413	98	2,179
1963	0	100	2,237

1964	0	104	1,969
1965	1,122	99	2,501
1966	13,027	87	3,044
1967	5,663	95	3,073
1968	0	128	1,515
1969	0	103	1,694
1970	13,284	85	1,723
1971	10,173	91	3,565
1972	1	112	2,292
1973	3,979	96	3,039
1974	6,485	94	3,320
1975	9,795	93	4,170
1976	0	127	2,386

\$276,373

\$122,050

1977	2,485
1978	1,863
1979	1,479
1980	2,070
1981	1,147
1982	<u>862</u>
	\$ 9,906

Sources: 1923 to 1976 data are from Taxation of Metal Mines (Montana Legislative Council: November, 1978) pp. 45-46.

Note: (1977 to 1982 data are from Reports of the Department of Revenue. The values are adjusted for inflation using the CPI and Chase Econometrics estimates for 1982.

* Part of the increase in deductions in later years was due to the higher cost of extraction from lower grade ore. Content of recoverable copper in the ore has decreased from 0.98779% in 1957 to 0.48816% in 1976. Offsetting this cost, however, were reduced costs of mining, due to open pit operations.

Table 4 also illustrates the tax base exposed to the mill levy under the net and gross formula approaches. The reader should note that the current gross proceeds tax base is significantly less than the tax base generated under the net proceeds approach. Also, since 1977, the 3% gross tax base (in constant dollar terms) has been steadily falling, the result both of mining production levels and metals prices.

3.6 MINERAL PRODUCTION IN SILVER BOW COUNTY

In the preceding chapter the effect of changes in Anaconda Company employment levels on total (statewide) hard-rock employment were clearly visible. The same effect, due to reduced Anaconda output, is readily apparent on net and gross proceeds. Table 5 shows the historical dominance of Anaconda in the metal mining business in Montana.

TABLE 5

TAXABLE NET PROCEEDS OF MINES SELECTED YEARS 1902 - 1981

Year	Silver Bow County	State Total	Silver Bow as % of State Total
1902	\$5,544,640	\$ 5,948,558	93.2%
1923	4,895,930	5,185,265	94.4%
1936	3,185,522	4,352,522	72.6%
1946	728,344	819,500	88.9%
1956	8,317,677	10,083,473	82.5%
1966	12,662,680	12,669,875	99.9%
1975	15,789,844	15,920,747	99.2%
1976	0	158,913	0
1977*	4,510,776	4,554,291	99.0%
1978	3,638,963	3,678,671	98.9%
1979	3,221,921	3,327,056	96.8%
1980	5,111,231	5,330,227	95.9%
1981	3,124,532	3,809,510	82.0%

*3% of gross proceeds since 1977

Source: Biennial reports of the Montana State Board of Equalization and the Montana Department of Revenue.

The Anaconda Company has produced the majority of all metals extracted in Montana during the past one hundred years. Although copper represents well over half of the value of metals produced in Montana, the company produced the majority of gold and silver as well. In 1969 Anaconda produced 99.8% of the gold mined in Montana. Ten years later production in Silver Bow County still accounted for 97% of all metals mined in Montana.

Considering these difficulties, the 1977 Legislature passed HB 198 which replaced the net proceeds method of valuation and substituted a gross proceeds method in its place. As introduced, HB 198, proposed a tax rate of 6% of gross proceeds but after debate the tax rate was lowered to 3%.

The 1977 Legislature acted to adjust the method of calculating the property tax on metalliferous minerals out of a desire to provide a steady tax base for local governments. While there was considerable legislative debate about the rate of the tax it was set at 3% partly because the county most affected by the new law (Silver Bow) did not express concern over the rate of tax and because there was concern that a tax increase would impose a hardship on the mining industry at a time when copper prices were low.)

3.7 COMPARATIVE STATE TAXATION PRACTICES

During the summer of 1982 the Hard-Rock Mining Subcommittee retained the services of the U.S. Bureau of Mines, Minerals Availability Office to conduct a comparative tax study of Montana with seven other mineral producing states. The Hard-Rock Mining Subcommittee undertook the tax analysis with the Bureau of Mines in order to assess the tax burden that Montana places upon mineral producers as compared to other states. The Subcommittee's goal was to understand how Montana's tax structure compared to other mineral producing states.

The results of the study are summarized in this section. Given the importance of this study, it is suggested that interested persons review the original document.⁹

⁹ Robert Davidoff, "A Comparison of the Impact of Local, State and Federal Taxes Upon Several Types of Mineral Operations at Different Profitability Levels, U.S. Bureau of Mines, Department of the Interior, Denver CO, 1982. (Copies are available at the Montana EQC office.)

The Bureau of Mines study utilized a computer simulating system known as MAS (Minerals Availability System) to estimate the internal rate of return for three different types of metal mines (gold, copper, and platinum) under two different mineral price scenarios (High and Low) and for three different levels of ore grade (economic, marginal, and subeconomic). The basic assumption of the model is that there is only one variable; different state tax structures and rates. All other cost factors (labor, transportation, construction, energy, environmental, etc.) are assumed to be constant from state to state. Cost factors were estimated by the Bureau and were designed to be reflective of "average" gold, copper, and platinum mines.*

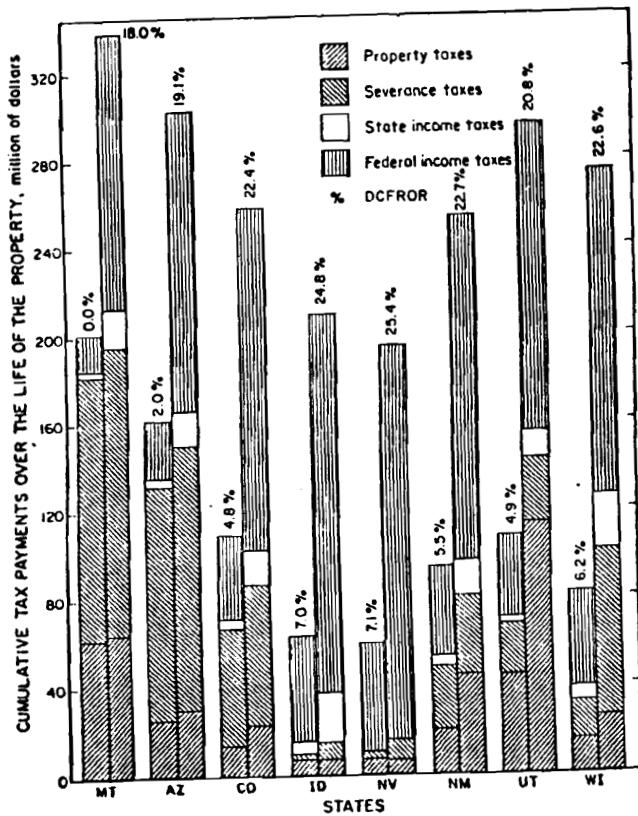
The primary results of this analysis are shown in Diagram 1-3. The reader should note two items in reviewing the diagrams. First, two different assumptions are used for metal prices -- a metal price that generates no profit (or a zero rate of return for Montana) and a price that produces an 18% profit for each type of mine. Secondly, three different levels of ore grade are used: economic(good), marginal(fair), and subeconomic(poor).

* Both the Bureau of Mines' Report and general taxation literature discuss numerous difficulties in assuming that taxes are the only costs that vary from state to state. Obviously production factor costs also vary considerably from area to area, region to region, and state to state. While it would be useful to examine mine models that provided multi-faceted variables, such models do not exist. The Bureau's analysis is the best available for inter state comparisons. However, its weaknesses should be kept in mind when comparing Montana's tax structure and that of her neighbors.

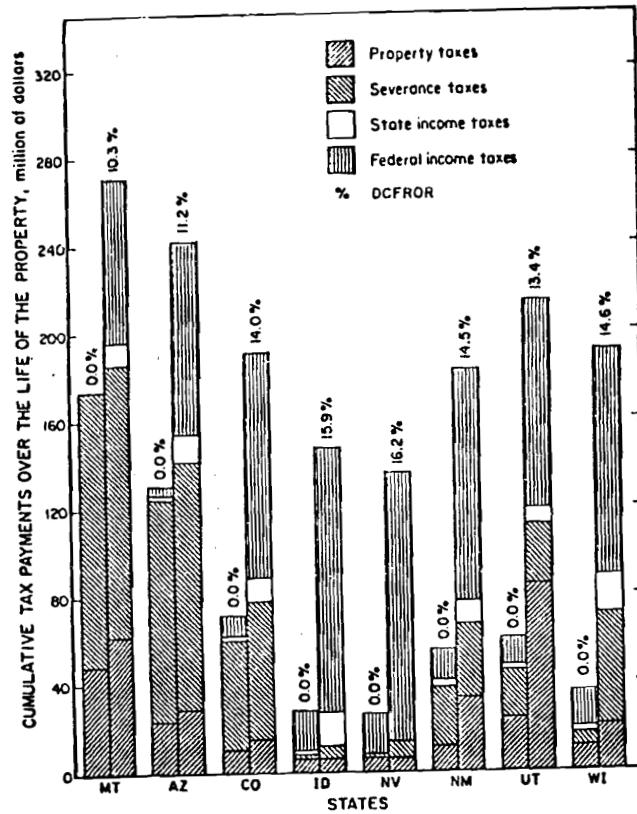
DIAGRAM 1

COPPER

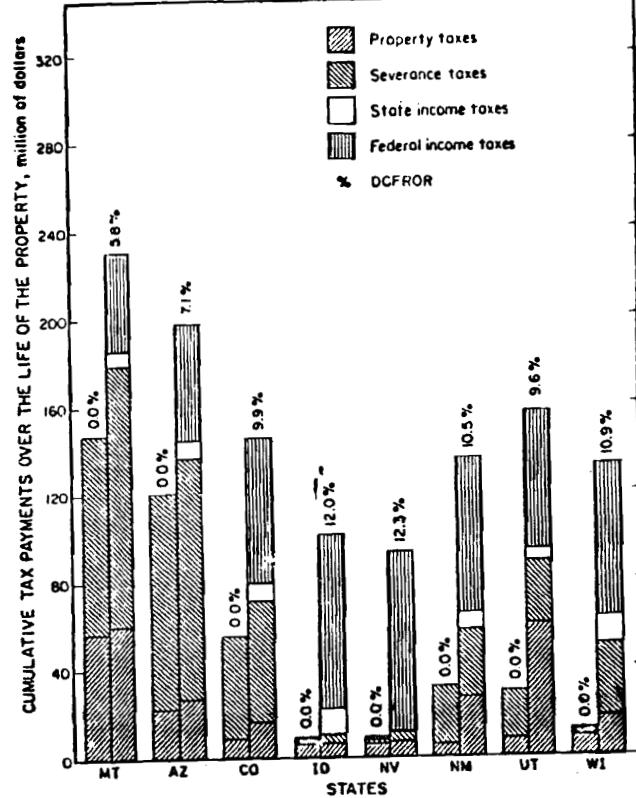
economic



marginal



subeconomic

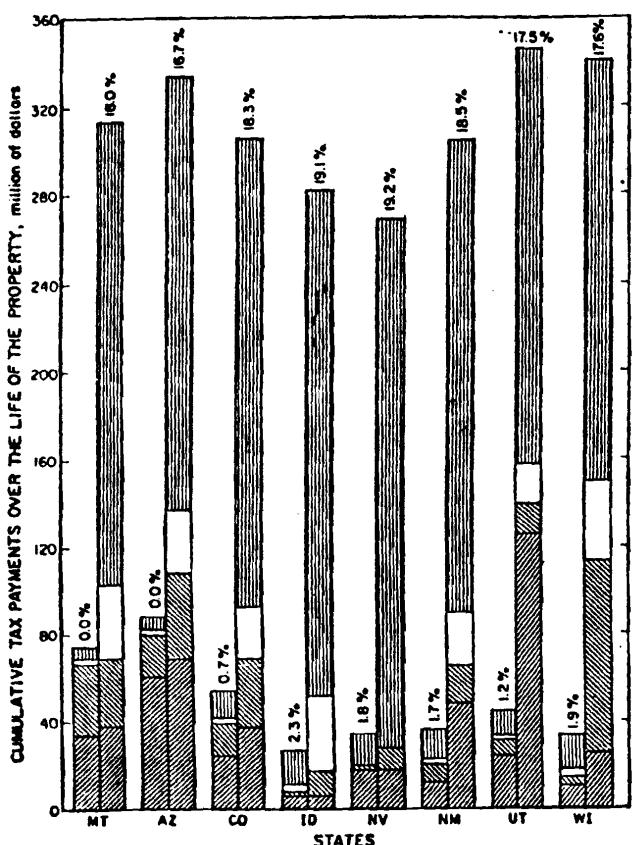


SOURCE: Robert Davidoff, "A Comparison of the Impact of Local, State and Federal Taxes Upon Several Types of Mineral Operations At Different Profitability Levels", U.S. Bureau of Mines, Department of the Interior, Denver, CO, 1982.

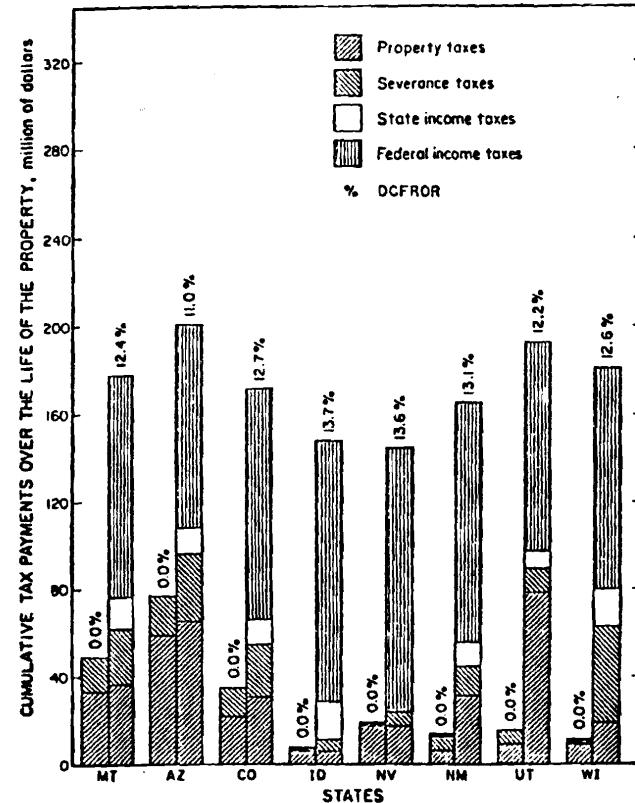
DIAGRAM 2

PLATINUM

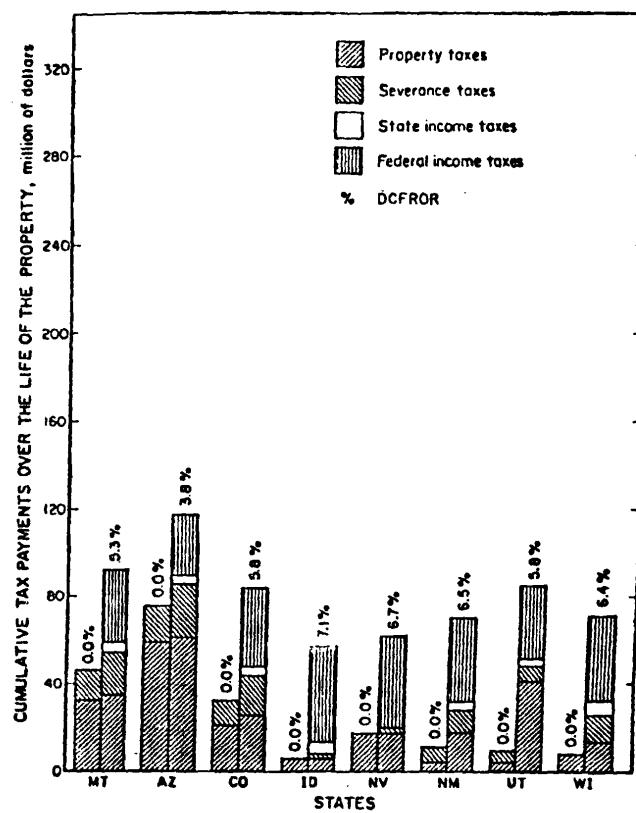
economic



marginal



subeconomic

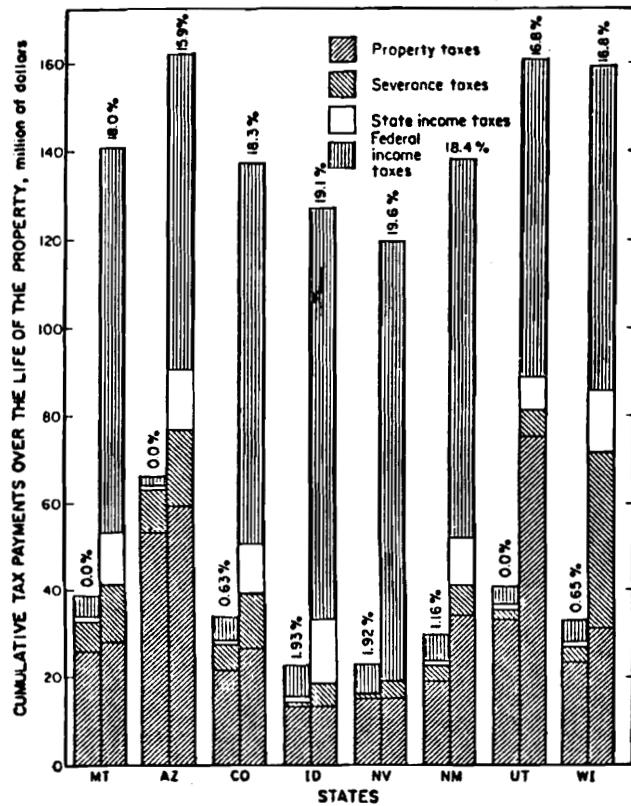


SOURCE: Robert Davidoff, "A Comparison of the Impact of Local, State and Federal Taxes Upon Several Types of Mineral Operations At Different Profitability Levels", U.S. Bureau of Mines, Department of the Interior, Denver, CO, 1982.

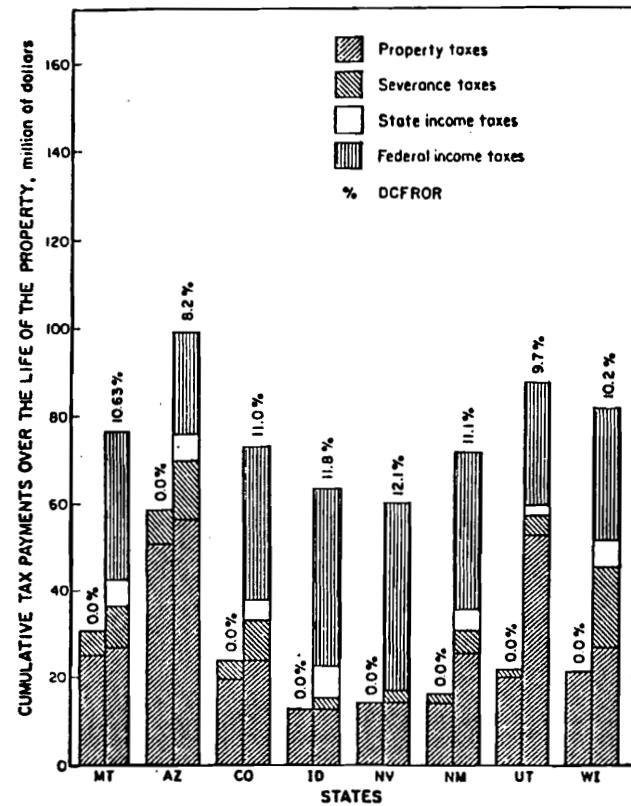
DIAGRAM 3

GOLD

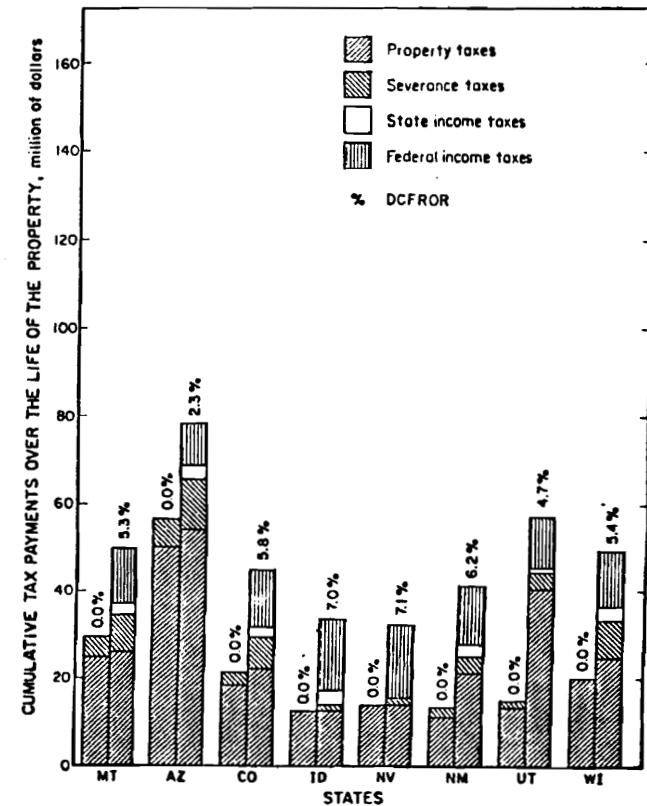
economic



marginal



subeconomic



SOURCE: Robert Davidoff, "A Comparison of the Impact of Local, State and Federal Taxes Upon Several Types of Mineral Operations At Different Profitability Levels", U. S. Bureau of Mines, Department of the Interior, Denver, CO, 1982.

Diagrams 2 and 3 present various rates of return in the various states for platinum and gold. The reader can observe the effect of each state's tax system upon the rate of return to the mine in each of these metals. In diagram 3, for example, the economic gold mine in Montana receives an 18% rate of return while three other states (Arizona, Utah, and Wisconsin) receive smaller rates of return on invested capital. The difference is due solely to the tax structure of each state. Under the economic gold scenario, Colorado, Idaho, Nevada, and New Mexico have slightly better rates of return than does Montana.

Given that computer simulations are subject to a range of error, the MAS is nonetheless reliable. It represents the combined efforts of professional mining engineers, mineral economists, and financial experts, from both the private and public sectors. Outputs of MAS may therefore, be regarded as state-of-the-art and probably the best information available.

A summary of the general conclusions that can be drawn from the Bureau of Mines analysis is as follows:

Copper

Montana's effective tax rate is higher than for any other state. This could affect profits and corresponding development potential. A copper mine in Idaho, historically rich in copper, would receive a higher rate of return than an identical mine in Montana.

Gold

In the Bureau's analysis, rates of return (profits) on a Montana gold mine are not greatly different than in other states. There is now information available on South Dakota through a report by the Bureau of Mines as completed for the Homestake Mining Company.

Platinum

Rates of return on the model platinum mine suggest that Montana taxes are not significantly different than those in other states. This conclusion, however, assumes that platinum exists in other states which is not the case. Economically recoverable platinum in the U.S. is known to exist only in Montana.

CHAPTER 4
ASARCO (TROY) MINE AND PROPOSED ANACONDA
(STILLWATER) MINE -- A BRIEF CASE STUDY

4.0 INTRODUCTION

The purpose of this section is to review the population and employment impacts of an existing mine (ASARCO) and the projected impacts of a potential mine (Anaconda). This case study approach will then be compared to a more general approach to estimating mine related impacts in Chapter 5.

4.1 ASARCO/TROY

The Troy deposit lies under Mount Vernon near the town of Troy, Montana. Copper mineralization was first discovered on Mount Vernon in the late 1940's. Later exploration, begun in 1957, led to an exploratory drilling program in 1964 conducted by Bear Creek Mining Company, a subsidiary of the Kennecott Corporation. The drilling program outlined an ore body 60 feet thick, located about 1,100 feet below the top of Mount Vernon. Subsequently, tunnels were driven into the ore body to confirm the results of the drilling and to obtain ore samples for engineering and metallurgical studies. In 1973 Asarco, Inc. leased the Troy property from another Kennecott subsidiary which now owns a 25% royalty interest.

With environmental studies under way, Asarco in 1974 began engineering and feasibility studies. The engineering study completed in 1975 indicated that development of a mine was economically justifiable. In 1976, permit applications were submitted to the U.S. Forest Service and the Montana Department of State Lands (DSL). The permit applications were followed by the preparation of a joint Federal/State Environmental Impact Statement (EIS) which was completed in October 1978. Following two public comment periods, the necessary permits were issued by federal and state authorities in November 1978.

Construction of the Troy mine and mill began early in 1979 and was completed in September 1981. More than 30 years had elapsed since discovery of the ore deposit, 17 years since drilling had delineated its bounds, and nine years since Asarco began active investigation of the property's mining potential.

Economic Impact

The Troy mine, one of the largest silver mines in the United States, reached full production in 1982. The operation presently employs approximately 340 workers and represents a significant contribution to Lincoln County's economy, a region which has been historically depressed. One of the more interesting aspects of the mine's economic impact is the very high rate of local labor

force participation. A recent survey of the Asarco workforce conducted by the consulting firm TAP, Inc. reports that only 39 employees were hired from outside of the local area.¹⁰ The direct population influx (including family members) stemming from the 39 mine employees new to the area was 123, resulting in an average household size of 3.2 people.

The effect of this high local participation rate is very significant. Because few newcomers were associated with the project, the demand for public services remained essentially unchanged. This is normally not the case, particularly in rural areas.

The Asarco (TAP) survey also showed that 304 new secondary jobs (service, trade, and government spinoffs) resulted from the project. The mine's employees, secondary employment, and associated families account for about 7% of the county population.¹¹ These current estimates are compared with the pre-development projections by the Department of State Lands in Table 6.

TABLE 6
A COMPARISON OF IMPACT ESTIMATES AND PROJECTIONS
(Lincoln County Only)

	Estimate After Opening (1)	Projected Before Opening (2)	Difference
Direct Mine Employment	340	310	- 30
Indirect Employment	304	407	+103
Total	644	717	+ 73
Miners Hired Locally	301	155	-146
Miners New to Area	39	155	+116
Total	340	310	- 30
Population	1197	1000	-197

Sources: (1) ASARCO Employee Survey, TAP, Inc. 1982
(2) TROY PROJECT, ASARCO, INC., Draft Environmental Impact Statement, Montana Department of State Lands, 1978, pp. 358-361.

10 ASARCO Employee Survey, TAP, Inc., 1982

11 Ibid

Even though the estimates of the total population and employment levels associated with the mine are similar, there is one noteworthy difference. Specifically, the DSL projections assumed that 50 percent of the direct workforce would be hired from outside the local area. The TAP survey, however, reveals that 11 percent were newcomers. At the time the DSL impact statement was written, the higher non-local assumption seemed to be reasonable since local employment conditions were much better, i.e., unemployment was considerably lower than at present. Hindsight, however, suggests that the 50 percent assumption was invalid for several reasons. First, the occupational structure of Lincoln County is significantly different than the norm. There is a disproportionately large number of craftsmen and operators in Lincoln County, which means that local workers were generally qualified for the new jobs. This pattern of high local workforce participation was also evident during the Libby Dam construction when a reported 60 percent of the construction workforce was local, as opposed to the norm of 40 percent. Second, and equally important, ASARCO diligently implemented a successful local hiring program.

The estimates in Table 6 require one additional and extremely important point of explanation. Both the TAP and DSL population figures are expressed in terms of the number of people which the mine supports - approximately 1000. This figure does not imply that 1000 people moved into the area as a result of the mine. In fact probably no more than 300 people moved into the area, about two percent of 1980 county population. Since 1970 Lincoln County has experienced consistently high rates of both out-migration and unemployment (double or triple the state norm). Between 1970 and the present, several thousand people have left the area due to the Libby Dam completion. More recently the wood products industry has been in a depression. Realistically, the Troy mine did not add to county population and service demands but rather helped to halt a severe decline.

Comments on the Environmental Impact Statement - Some Perspectives

The following select comments on the DSL draft environmental impact statement are quoted directly from the Final EIS, Volume III. These responses to the DSL projections are offered to provide the reader with an indication of public concerns prior to the opening of the mine.

Comment: "It also appears that the draft EIS underestimates the amount of land that will be developed by the new residents of the Bull Lake area. Apparently, the same per capita land use figures used in the 1971 Libby Comprehensive Plan were used to project the land requirements of the 400 new residents of the Bull Lake area. The draft EIS claims that these 400 new residents will require the development of only 45 acres of land." Montana Environmental Quality Council, Letter, 7-28-78

Comment: "What are the maximum school capabilities, and how much decrease in funds when the project winds down? There will also be a loss of service and teaching related jobs in direct relationship to the mine's cycle." Montana Wilderness Assoc., Letter, 8-9-78

Comment: "My second area of concern deals with the lack of an economic analysis regarding public services and increased county tax load. The fact that increased populations require more funds for the services that are provided than the revenue provided through taxation of the land and improvements of this new population. Therefore, the existing tax sources will find an increase tax load to support the newcomers." Russ Hudson, Letter, 7-24-78

Comment: "To recap some of my thinking - I sincerely believe someone truly missed their homework when they stated 300 men working - if they would be totally honest they would state - beginning Crew 300 - with an average family of 3.3 people = 1000 people - to be absorbed into a relatively restricted area - for these 1000 people there would be another 2,000 people move in (workers with families) to care for the needs of the first 1000 people." Beatrice Woessner, Letter, 8-4-78

Comment: "On page 367 the EIS identifies a major problem. Of all the local government entities in Lincoln County, it is likely the communities of Libby and Troy will experience the greatest expenditure impact with the least offsetting direct revenues. This important issue is not even addressed in the mitigation discussion." Montana Department of Community Affairs, Letter, 8-8-78

Comment: "A second inadequacy in the data analysis is that numerous projections are 'based upon the present level of service,' in which simply arithmetic multiplication is used to project a complicated relationship. If all the newcomers were people like the locals in the study area, and if adequate facilities and services were available upon their arrival, then one might say that X number of additional people will require one more deputy, doctor, etc. But research in other rural areas experiencing rapid industrialization shows that there is certain to be a serious lag between need and availability of most services and housing which, coupled with the unknown characteristics of the construction population, will demand much more than is planned from the personnel and the budgets of such services as law enforcement and public health agencies. Similarly, the assessment of impact on welfare services does not take into account the history of other development sites where strikes and other work stoppages have occurred." Institute for Social Research, Letter, 8-7-78

Comment: "The EIS should have seriously considered the creation of a new village community at Little Joe to lessen the population impacts upon the other local communities." Rep. Art Sheldon, Troy Public Meeting, 7-24-78

Comment: "A second major omission is consideration of impact on the local residents whose income would not be increased by construction and operation of the mine; e.g., the elderly,* other retirees, and those who are employed on relatively fixed incomes. This problem is dramatized in the statement beginning on page 377 that 'Initially, with relatively high wages being paid the construction workers and the mine workers, there would be an increased ability of the local population on the whole to purchase goods and services.' According to the most optimistic estimate (page 358) only 30 to 60 locals would be eligible for those initial, relatively high wages. It seems apparent then that most locals will have substantially less purchasing power in the competition for goods and services." *Although Lincoln County has a low median age, probably because of in-migration during the dam construction, the more rural parts of the county have a large number of retired persons." Institute for Social Research, Letter, 8-7-78

Comment: "ASARCO'S plan to hire local people is commendable, however, I am skeptical. I do not see any evidence of local people being contacted about their desire to work in this mine. What I fear will happen is a large influx of people after announcement of the development of this ore body. These people will have been living in the area only months to weeks before employment begins, and ASARCO will have no way of knowing whether they are local people or not. I would suggest that ASARCO address this problem in the final EIS, and present a plan to alleviate the problem. For example, ASARCO could begin contacting local employment agencies now and have any local person who is interested in mine employment sign up now, before the influx of outsiders. I also feel a job training program should be initiated." Brad Sheppard, Letter, 8-1-78

Comment: "Comparing Lincoln County to Rosebud and Big Horn Counties is misleading for several reasons. The only similarity is large scale mining development in an area with sparse population. The development of coal resources was anticipated by the legislature and the taxation of coal is designed to handle many of the costs associated with its development. This is not the case with copper mining. In the first place the proper tax based on gross proceeds of coal is much higher than that of metal mines. Coal is taxed at 45 percent of gross proceeds for strip mined coal and 33-1/3 percent for coal mined underground. The taxable percentage for metal mines is only 3 percent. In other words, gross proceeds of coal are taxed at 15 times those of copper." Montana Department of Revenue, Letter, 7-14-78

Comment: "ASARCO should construct a parking lot and provide transportation for each shift, to eliminate the need for 600 plus cars to travel daily up and down Mt. Vernon." Laurie Blazich, Letter, 8-10-78

Comment: "The major flaw in the analysis is the mention of the fact that additional expenditures should be covered by the increase in the tax base and then mentioning the possibility of decreased mill levies by comparing Lincoln County to Rosebud and Big Horn Counties. In the long run it is possible that additional revenues may be sufficient to cover the expenditures necessitated by development of the Troy ASARCO Project. However, in the short run this is not the case because there is a substantial lag between the time first impact actually occurs and the time when the new construction becomes part of the local tax base. As mentioned in the statement, during the construction period there will be a substantial in-migration to the impact area. These construction workers will generally live in temporary housing which will contribute little to the tax base. However, these same workers will be demanding services from local government units. There will not be any revenues from the property tax based on the gross proceeds from the mine and the mine facilities will be taxed only on the portion of the facility completed by assessment day. There will necessarily be increasing expenditures to meet the demands of the workers without accompanying increase in taxable value. The only way to raise the needed monies during construction is to raise the mill levies thereby adversely impacting local property owners." Montana Department of Revenue, Letter, 7-14-78

Current Attitudes Toward ASARCO

While the preceding comments may have illustrated extreme concern by the Troy citizenry and others toward the proposed ASARCO mining project, the results of the recent TAP public survey suggest that much of the fear has dissipated since the project has come on line.

How Troy Area Residents Feel About Their Community

- | * Like Best | * Like Least |
|--------------------|-----------------------------------|
| 1. The environment | 1. Distance to medical facilities |
| 2. The people | 2. Limited shopping |
| 3. The small town | 3. Restricted job opportunities |

The Area Reflects "Settled In" Residents

Years in Troy Area	Percent of Residents
Under 5 Years	18%
5 to 10 Years	21%
11 to 20 Years	18%
Over 20 Years	43%

How Troy Area Residents Feel About the ASARCO Mine

1. ASARCO has been a needed boost to the area economy
 - * Agree 93%
 - * Disagree 3%
 - * No Opinion 4%
2. ASARCO has caused significant environmental pollution
 - * Agree 12%
 - * Disagree 61%
 - * No Opinion 27%
3. ASARCO increased job opportunities for local young persons
 - * Agree 83%
 - * Disagree 7%
 - * No Opinion 10%
4. The mine has created other jobs in the area
 - * Agree 59%
 - * Disagree 17%
 - * No Opinion 24%

5. The school system has been adversely affected as a result of ASARCO

* Agree	19%
* Disagree	55%
* No Opinion	26%

6. ASARCO has shown a concern for the environment

* Agree	65%
* Disagree	14%
* No Opinion	20%

7. ASARCO has developed a good corporate image

* Agree	74%
* Disagree	14%
* No Opinion	20%

8. Residents overall feeling on the mine's economic and social effect

* Very Positive	40%
* Positive	37%
* Little Effect	12%
* Negative	4%
* Very Negative	1%
* No Opinion	6%

Source: ASARCO Survey, TAP, Inc., 1982

4.2 ANACONDA/STILLWATER

The proposed Anaconda platinum/palladium mine (in Stillwater County) is similar to the Troy project in some respects but potentially very different in others. As in the Bull Lake area, recoverable reserves have been thought to exist for at least 40 years. Moderate scale mining for chrome actually took place in the general vicinity during World War II. At present, no mines are operating but the Anaconda Company and Stillwater PGM are seriously considering development prospects. While the Troy project is located in a fairly industrialized area, an agrarian community surrounds the Stillwater project. The residential, occupational, and social structures are different and the population level is lower. All of this suggests greater economic impacts if development is to occur. The following description of the proposed project is taken directly from the recent DSL Draft EIS.¹²

Brief Description of the Anaconda Company's Proposal

Anaconda Minerals Company proposes to mine platinum and palladium from a steeply dipping mineralized zone lying within the Stillwater mineral complex. Anaconda has begun exploration activities, and if its permit is approved, the company could fully begin mine development in late 1982. The project could last 20 years. The company plans to mine an average 1,000 tons or ore per day by underground mining. Ore would be trucked seven miles on county roads to a concentrating mill that would be located in Hertzler Valley. Tailings from the milling process would be deposited in a tailing pond adjacent to the mill. The proposed project area covers 780 acres, including 90 for the mine and 690 for the mill and tailing pond.

Sociology

The greatest change would be in the population structure of Absarokee and Nye. The occupational structure of Absarokee would shift to a large proportion of jobs in mining. Some current residents of the Absarokee community would have less influence over community matters than they now have. By 1991 Stillwater County's population would increase 12 percent, and the community of Absarokee's by 54 percent, over the levels that would exist without the project.

Community Services

The project would result in additional demand for staffing, space, equipment, and operating revenue for the following: Absarokee school system, the City of Columbus, the Stillwater

¹² Draft Environmental Impact Statement, The Anaconda Company, Stillwater Project, Montana Department of State Lands, 1982.

County law enforcement system, the Absarokee Water Users Association, sewer district numbers five and seven, and possibly the Stillwater County Welfare Department. Additional housing in the county would also be needed as a result of the project.

Employment

The operation of the proposed mine would create a total of about 263 new jobs in Stillwater County. The new jobs would represent two-thirds of the total employment growth projected for the county during the 1980s. An additional 50 short-term jobs would result between 1989 and 1992 when a second internal support shaft would be developed.

The industrial composition of the county's economic base would be affected slightly. Growth in mining employment would make up for projected losses in agriculture, but agriculture would continue as the county's largest basic industry employer.

The 263 new jobs created by the project would represent an increase of 12.5 percent over the 1979 figure for total number of jobs in the county and 9 percent over the projected 1989 and 1999 figures.

During the 30-month construction/development phase of the mine, direct employment would average 172. Actual employment would fluctuate from month to month on a seasonal basis between a low of 59 jobs in month six and a high of 243 jobs in month 14.

The permanent operating work force is expected to number 200 throughout the 20-year life of the mine. Development of an internal support shaft is currently projected for 1990, 1991, and 1992. This would cause a short-term increase of as many as 35 jobs at the mine for this period.

Local government and area business employment would increase by about 83 jobs in response to the new employment at the mine (Briscoe, Maphis, Murray, and Lamont (BMML), 1981, pp. 3-8 and 4-10). Trade and services employment would increase by 30 jobs, local government employment by 27 jobs, and the remainder would be divided among other industries.

Each of the three phases of the mine would exhibit a different employment combination of in-migrants, commuters, and local residents. The development phase construction work force would largely consist of employees of Billings area construction firms, (BMML, 1981, p. 5-4). Thirty-eight percent of this work force would prefer to commute daily; the rest would probably commute weekly.

Mine development is a highly specialized task. Because of this, 80 percent of the development phase work force is expected to be provided by a contracted firm from outside the state. The remaining 20 percent would be hired locally if training is

provided. Most of the mine development work force would reside in Stillwater County.

The permanent operational work force would be made up of in-migrants (60 percent), local residents (30 percent), and daily commuters from outside the county (BMML, 1981, p. 5-5). Based on the number of local people employed at the mine in 1980-81, half of the local resident work force (30 persons) already works for Anaconda Minerals Company.

The portion of the mine/mill work force that would be local residents is potentially much higher than the currently projected 30 percent. The mine is expected to have a monthly turnover rate of at least 3 to 5 percent (Jim Harrower, Anaconda Minerals Company, oral communication, February 1, 1982). This amounts to a replacement of the entire work force every 2 to 3 years. There is a large pool of potential applicants for work at the mine and mill. Twenty-one percent of the employed and 63 percent of the unemployed persons in the Stillwater County Resident Survey (Entercom, 1981, p. 524) indicated that they would be somewhat or very likely to apply for a job at either the mine or mill operation. At the 1981 employment level this indicates a pool of applicants that would number about 600, three times the number of jobs. If local residents were more likely to stay on the job than in-migrants, over time the proportion of local residents working at the mine/mill would increase.

After the mine/mill ceases operation the employment base would shrink to what it would have been if the mine had never existed. Persons laid off from the operation would either leave the area seeking employment or compete for the other jobs in the vicinity. Depending on the ratio of mine-related employment to the total, readjustment after closure may or may not be significantly disruptive.

Income

The annual wages of the employees of the mine and mill operation would range between \$13,000 for a typist and \$50,000 for the mine manager. Most of the employees would earn between \$24,000 and \$35,000 a year (BMML, 1981, p. 4-6). This is considerably greater than the average amount earned by the currently employed persons in Stillwater County, three-fourths of whom earn less than \$24,000 per year (Entercom, 1981, p. 937).

Per capita income in the county would be about three percent greater with the mine and mill in operation than would otherwise be the case (BMML, 1981, p. 4-15). Per capita income would be greater because the jobs at the mine and mill would increase the proportion of jobs in the upper wage brackets, not because wages in other industries would be increased.

Population

The greatest change would be in the population structure of Absarokee and Nye. The occupational structure of Absarokee would shift to a large proportion of jobs in mining. By 1991 Stillwater County's population would increase 12 percent, and Absarokee's 54 percent, over the figure that would be reached without the project.

The total population increase that would likely result from the Anaconda Stillwater Project is 667 persons, or a 12 percent increase by 1991. This increase would put the population 15 percent above the 1980 level and would be about three-fourths the size of the increase the county experienced between 1970 and 1980.

Growth would probably occur primarily in Absarokee, unless Anaconda encourages settlement in another area. Absarokee's population would increase 54 percent, or 422 by 1991. Columbus' increase would peak at 115 by 1991, an increase of 8 percent over the figure that would be reached without the project.

Eighty percent of the permanent project operational work force would probably be married. Average family size would be about 4, resulting in a direct mine-related migration into the county of 416. Of the 416, 60 percent would reside in Absarokee, 15 percent in Columbus, and the remaining 25 percent would locate in Nye, Fishtail, and other unincorporated parts of the county. The indirect population increase of the project would amount to another 251 persons (BMML, 1981).

Tax Base

The proposed mine would produce taxable value directly and indirectly. The direct increase would consist of the gross proceeds value of the mine's production and the value of the property associated with the mine and mill. Indirect increases would result from the value of the homes established by miners. Most of the taxable value would not be available to the taxing jurisdiction until 1986, the year after production begins.

The taxable value of the mine's production would amount to three percent of the gross value of minerals produced each year. At full production and at January 1982 prices as reported in the Engineering and Mining Journal (February 1982), the gross proceeds value would amount to approximately \$853,000 per year. The taxable value of the mine and mill would be about \$6 million (Steve Dole, Anaconda Minerals Company, oral communication, March 9, 1982).

Only the county, the elementary school district at Nye, the high school district at Absarokee, and the State would benefit directly from the increased taxable value. Some affected jurisdictions would benefit indirectly. In particular, the Absarokee elementary district and to a lesser extent the Columbus schools would enjoy a positive impact because of the new homes that would be built in their districts. Over the life of the mine, the State would receive about \$11 million in revenue raised through the Metalliferous Mines License Tax and the Resource Indemnity Trust Tax.

4.3 COMPARISON OF IMPACTS

Table 7 provides a comparison of general economic variables for both the Troy and Stillwater mines. Several noteworthy differences stand out:

- The Stillwater mine may generate relatively fewer secondary jobs (and/or secondary population) than the Troy mine. Because of proximity to other urban areas, people in Stillwater County may shop outside the local area more often than in Troy/Libby.
- Local workforce participation in the Stillwater will probably be half as high as in the Troy case. This is a result of a smaller population base, agrarian occupational structure, better commuting possibilities, and lower unemployment.

TABLE 7

A COMPARISON - ASARCO AND ANACONDA

	ASARCO [1]	ANACONDA [2]
Mine Employment	340	263
Secondary Employment	304	83
Local Labor Force Participation	89%	30-50%
Population Associated With Mining	1,197	667
Percent of 1983 County Population	6.7%	11.9%
Ratio of Mining Jobs To Mine Population	3.5	2.5
County Population Growth 1970-1980	-1.7%	20.9%

[1] ASARCO Employee Survey, TAP, Inc., 1982

[2] Draft Environmental Impact Statement, Anaconda/Stillwater,
Department of State Lands, 1982

CHAPTER 5
GENERAL GROWTH IMPACTS ASSOCIATED WITH MINING

5.0 INTRODUCTION

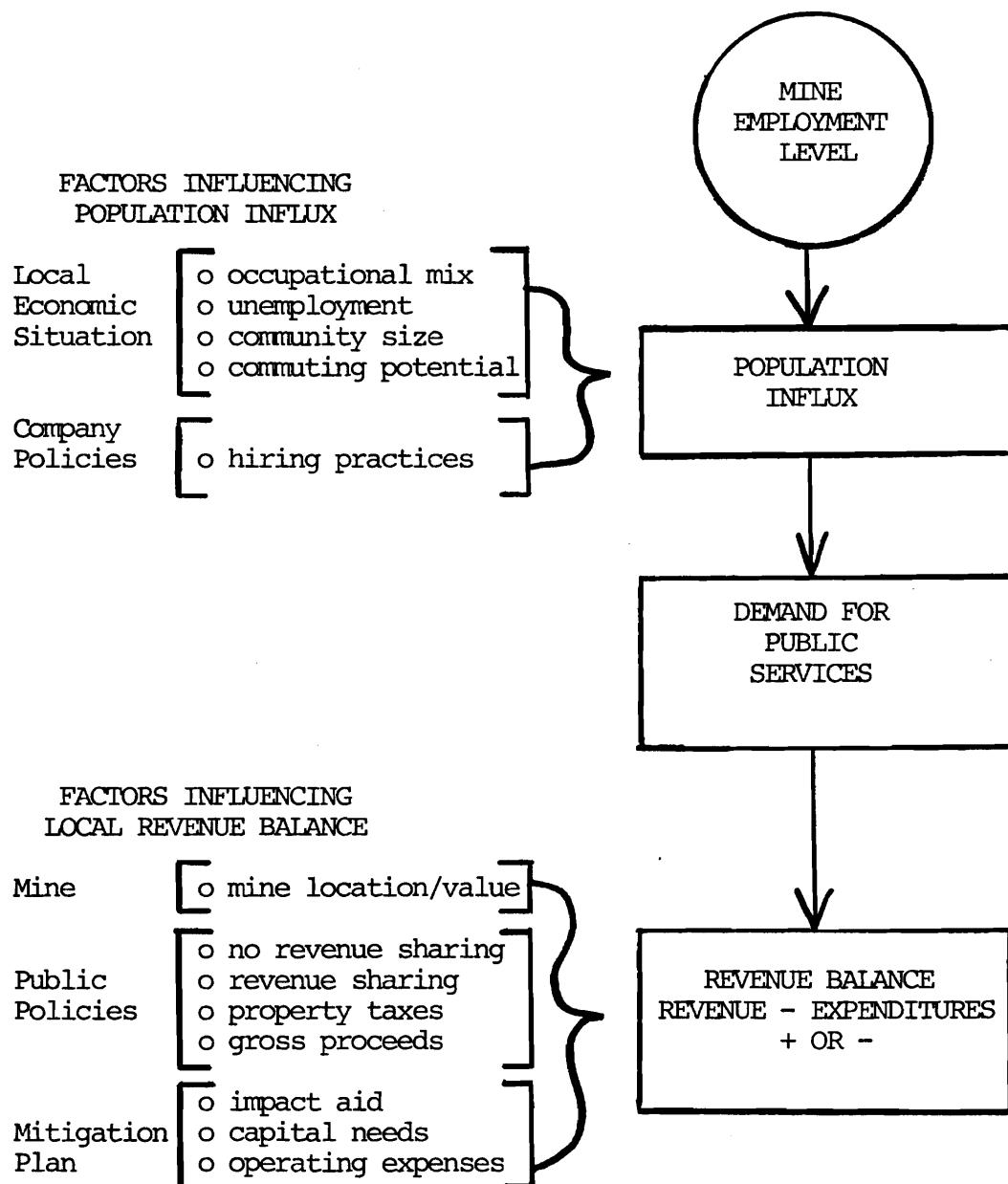
The purpose of this chapter is to more fully consider those economic and social variables which influence local growth impacts. A population and public finance impact model was developed to help illustrate the range of probable growth impacts which could be expected to occur in western Montana counties. This system was also utilized to help calculate the dollar impacts resulting from the jurisdictional conflict issue mentioned in Chapter 1.

5.1 FACTORS INFLUENCING LOCAL IMPACTS

Chapter 4 introduced some of the factors which help to explain variations in local level population, employment, and public service impacts. (These factors are reviewed in Diagram 4.) Fundamentally there are two related factors which determine whether a local government jurisdiction is "better off or worse off" as a result of a development. First, how many new people will move into the area? Second, how much revenue versus how much cost will occur in each jurisdiction? Unfortunately, no clear cut method exists to precisely resolve these two issues. Furthermore, the answers are always site specific, i.e., every community and every mine is different. The key assumptions and variables in this complicated problem are discussed in the following sections.

DIAGRAM 4

LOCAL DEVELOPMENT IMPACTS



Local Labor Force Participation

The most important variable determining local impact costs boils down to how many people move into an area. There are several different components which comprise this level, a direct and an indirect effect illustrated below.

TOTAL POPULATION INFLUX

DIRECT INDIRECT

- o Miners
- o Families
- o Indirect Employment
- o Families

The Bureau of Mines study indicates that the prototype mine (a combination or average of the model gold, copper, and platinum mines) would employ 204 workers. Assuming that 80% of these workers were married with spouse present, the average household size for miners would be 3.4; i.e.,

163 married miners	
163 spouses	
326 children	
41 single miners	
<hr/> <td>693 total</td>	693 total

Where household size = 693 divided by 204 = 3.4

The maximum direct population impact, if all miners were newcomers, would be 693 people with a mine employing 204 workers, i.e., 204 times the average household size. Population influx, however, is very much determined by local labor force participation. If half of all the direct mine workers were hired locally, the population influx would be 347 as shown below:

	Local Participation	Population Influx
Low	20%	555
Normal Range	40%	416
	50%	347
	60%	<hr/> 278
High	80%	139

Usually, between 40 to 60 percent of the total permanent workers will be hired locally. The average for construction workers will generally be less, averaging approximately 40 percent. A 20 percent local rate should be considered a minimum value. A rate this low would be consistent with:

- a very small population or labor force base; less than 5,000 population.
- high current work force participation which sometimes is the case in remote/rural areas.
- atypical social pattern e.g. an Indian reservation economy.
- low commuting potential.

At the other end of the spectrum, an 80 percent local rate should be considered as a maximum for most planning purposes. A rate this high would be consistent with:

- a large population base (over 15,000)
- high unemployment.
- low current work force participation.
- high commuting potential.

Indirect Employment and Population

Mine workers (local and nonlocal) will spend most of their earnings within the local area. Although no survey data exist, it is reasonably safe to assume that between 50-80 percent of all disposable income is spent locally on rent, house payments, groceries, public and private services and other retail purchases. These types of local expenditures create additional jobs and also support additional people within the community.

The secondary employment multiplier for a miner will be about 1.00 in rural areas, to about 1.75 in urban areas.¹³ In small communities trade leakages are higher and the local multiplier is lower. Conversely, in urban areas there is more internal shopping and purchasing and the multiplier is higher. As a result, a mine located within a larger county would result in more local secondary jobs and a higher indirect population level.

¹³ Montana Alternative Simulation System II, Montana Department of Administration, Data Center, 1982. (The MASS II Model is an impact simulation system which generates the population and secondary employment levels associated with a change in basic industry employment (by type) at the county level.)

Population Impact - Total

Tables 8-10 show a range of the number of people (direct and indirect) that would be associated with a mine job for different county sizes and three levels of local labor force participation. For example, if a mine with 204 workers were located in a county with less than 5,000 people, the total population influx would be 979 people with a 30 percent local (70 non-local) participation rate. Calculations are: 204 miners times 4.8 people per job equals 979 people.

If the local participation rate were 40 percent, the impact would be 775 people; i.e., the low impact for a county with less than 5,000 people. If only 20 percent of the workforce were local (80 percent non-local), the impact would be 1,183, the maximum plausible impact for the model mine with 204 workers.

The parameters in the system were derived from the MASS II model, an employment and population simulation system developed by the Montana Department of Administration. Since 1975 this system, with various revisions, has served as the state's official forecasting system. The technique has also been utilized in a number of environmental impact statements for major mining development within Montana.

In an effort to examine the validity of the system, approximately 50 environmental impact statements have been reviewed for major projects within the western United States. In 80 percent of the cases the ratio of people per mine job was in the 2-6 range, a range of values which is consistent with those values shown in Table 8. Therefore, population impact multipliers of less than 2 or greater than 6 are unrealistic. A value of 3.8 is currently being used by the Montana Department of State Lands for the coal area.¹⁴ However, the range of impacts as shown in Table 8 is quite broad depending on county size and local participation rates.

General Observations On Population Impacts

Small communities and counties will generally experience greater impacts from growth than larger areas. Resident workforce participation will be lower in rural areas, resulting in proportionately more people moving in. Rural areas also have a small population base. Table 11 illustrates that the model mine will have a much larger population impact in the small counties than in the larger ones, which is as expected.

Although the procedures for estimating growth impacts have dramatically improved over the last decade, impact planning is still in its infancy, particularly in the area of public finance. This topic is considered in the following sections.

14 Personal communication with Mr. Tom Coefield, Economist, Department of State Lands, August 1982.

TABLE 8
POPULATION INFUX PER MINE JOB

<u>County Size</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
5000	3.8	4.8	5.8
5000-15,000	2.9	4.0	5.3
15,000+	1.8	2.8	3.8
Average	2.8	3.9	5.0

TABLE 9
PARTICIPATION (NON-LOCAL)

5000	.6	.7	.8
5000-15,000	.4	.5	.6
15,000+	.2	.3	.4
Average	.4	.5	.6

TABLE 10
POPULATION INFUX ESTIMATES

5000			
Direct	416	486	555
Indirect	359	493	628
Total	775	979	1183
5000-15,000			
Direct	277	347	416
Indirect	315	469	665
Total	592	816	1081
15,000+			
Direct	139	208	277
Indirect	228	363	498
Total	367	571	775
Average			
Direct	277	347	416
Indirect	294	449	604
Total	571	796	1020

Source: Derived from the MASS II Model, Montana Alternative Simulation System II, Montana Department of Administration, Data Center, 1982.

TABLE 11
RELATIVE IMPACT
(204 Miners)

Number of Counties	County Size Population	1980 Average Population	Medium Mine Impact	Percent of 1980 Population
5	5,000	3,000	979	33%
10	5,000-15,000	8,000	816	10%
5	15,000+	38,000	571	2%

Source: Derived from Table 10

Counties Include: Broadwater, Granite, Meagher, Mineral, Sweet Grass, Beaverhead, Blaine, Carbon, Jefferson, Madison, Phillips, Powell, Stillwater, Deer Lodge, Park, Gallatin, Lewis and Clark, Lincoln, Flathead, and Silver Bow.

5.2 LOCAL EXPENDITURES

Table 12 provides estimates of city, county, and school expenditures for three different county population classes. City data are for the primary city within each of the twenty Montana counties which could be expected to have mineral reserves. School data represent state averages.

All expenditure levels including both operations and capital costs. City and county data are expressed on a per capita basis, whereas school data are expressed on a per student basis. Thirty-five percent of the population influx (see Table 10) are school-aged children.

TABLE 12
AVERAGE LOCAL EXPENDITURES
(1982 Estimate)

County Population	County Per Capita	City Per Capita	School Per Student (State Average)
Less than 5000	\$448	\$214	\$1851
5000-15,000	\$304	\$332	\$1851
Greater than 15,000	\$266	\$508	\$1851
Average	\$339	\$351	\$1851

Sources: (1) County/City expenditure data, Local Government Services Division, Montana Department of Administration, unpublished data, 1979-81 average. Current estimates were price adjusted (10% annual increase) to 1982 levels. (2) School expenditure data (local only), Office of the Superintendent of Public Instruction, 1981 state average, price adjusted (10%), to 1982 levels.

Note: Data exclude Deer Lodge and Silver Bow counties which have a combined city/county government and Meagher County which has no reported data.

If 816 people (medium impact, 500-15,000 county population class...see Table 10) moved into an area, and if 50 percent of them lived in the primary city, total expenditures resulting from the model mine would be \$912,288 as shown in Table 13 below:

TABLE 13
TOTAL EXPENDITURES COUNTY, SCHOOL AND CITY - 50%

COUNTY SIZE	LOW	MEDIUM	HIGH
5000			
Direct	\$ 500,448	\$ 584,658	\$ 667,665
Indirect	431,877	593,079	755,484
Total	<u>932,325</u>	<u>1,177,737</u>	<u>1,423,149</u>
5000-15,000			
Direct	\$ 309,686	\$ 387,946	\$ 465,088
Indirect	352,170	524,342	743,470
Total	<u>661,856</u>	<u>912,288</u>	<u>1,208,558</u>
15,000+			
Direct	\$ 162,352	\$ 242,944	\$ 323,536
Indirect	266,304	423,984	581,664
Total	<u>428,656</u>	<u>666,928</u>	<u>905,200</u>
Average			
Direct	\$ 322,013	\$ 403,388	\$ 483,600
Indirect	341,775	521,963	702,150
Total	<u>663,788</u>	<u>925,350</u>	<u>1,185,750</u>

Example calculations shown below may help to explain Table 13.

	Number of People or Students	x	Average Expenditure	=	Total Expenditure
County	816	x	\$ 304	=	\$248,064
City	408	x	332	=	135,456
School	286	x	1,851	=	528,646
Grand Total					<u>\$912,166</u>

Note: Totals may not add due to rounding

In the small county (less than 5,000), total population influx would be 775 in the low-impact case and 1,183 in the high scenario (see Table 10). Total expenditures would therefore range between \$932,325 and \$1,423,149, contingent on local hiring (see Table 13).

5.3 LOCAL REVENUES

Local revenues which will result from mine development will come from a variety of sources as shown below:

DIAGRAM 5

REVENUE SOURCES
PROPERTY TAX/GROSS PROCEEDS

TYPE	POPULATION GROUP	
	DIRECT (Miners)	INDIRECT (Others)
PRIMARY TAX	<input type="radio"/> Property Tax on Mine <input type="radio"/> Gross Proceeds	<input type="radio"/> Not Relevant
SECONDARY TAX	<input type="radio"/> Cars <input type="radio"/> Houses	<input type="radio"/> Cars <input type="radio"/> Houses <input type="radio"/> Commercial

As Shown In Diagram 5:

- Mine related revenue (primary tax) will come from the property tax on the mine and improvements, plus gross proceeds exposed to the average mill levy for each county population class, i.e., less than 5,000, 5,000 to 15,000, and greater than 15,000 population. Mill levies for cities, counties, and schools are based on 1981 averages for each population class.
- Miners (and their families) who move into the area will pay taxes on cars, trucks, and houses. Taxes on vehicles are based on current Montana norms as developed by the Office of Budget and Program Planning. Taxes on houses assume an average market value of \$35,000. Actual collections for each county class are based on the 1981 mill rates for each respective class.
- The indirect population (resulting from secondary employment impacts) associated with the mine will also pay taxes on cars and houses. In addition, some increased commercial activity will result in new taxes. Commercial taxes per capita were estimated by the Montana Department of Revenue.
- Total revenue is the sum of both the primary and secondary taxes paid . . . see Diagram 5.

- o Mine property values (for the model mine) are derived from the Bureau of Mines study and represent the average taxes paid...i.e., the average property taxes for economic ore (18% rate of return) and for subeconomic ore (at 0% rate of return) for the gold, copper, and platinum mines. Based on the Bureau of Mines report, average taxes paid (at 220 mills) is \$1,788,347 per year. Local mill levies for the three county classes are then applied to the estimated tax base of \$8,128,850 to determine actual collections. Mill rates are provided below:

COMBINED MILL LEVY (1981)

County Size Population	County	School	City	Total*
5000	59	157	79	295
5000-15,000	39	140	80	259
15,000+	49	196	85	330
Average	49	165	80	294

*Does not include 6 mill levy or special improvement districts

Source: Montana Taxation - 1981, Montana Tax Foundation

Estimated Revenues

Table 14 shows total revenue collected for counties, cities, and schools for each county population class with 50% of the new population assumed to be living in the primary city. In the 5000-15,000 county population class (medium impact scenario) \$1,644,668 of taxes are collected versus \$912,288 in costs.

TABLE 14
 TOTAL TAXES GENERATED (COUNTY, SCHOOL, AND CITY -
 50% OF NEW RESIDENTS LIVE IN PRIMARY CITY)

COUNTY SIZE	LOW IMPACT	MEDIUM IMPACT	HIGH IMPACT
<u>5000</u>			
DIRECT			
PRIMARY	\$1,755,831	\$1,755,831	\$1,755,831
SECONDARY	64,489	75,339	86,035
TOTAL	1,820,320	1,831,170	1,841,866
INDIRECT			
PRIMARY	0	0	0
SECONDARY	113,990	156,538	199,402
TOTAL	113,990	156,538	199,402
TOTAL			
PRIMARY	1,755,831	1,755,831	1,755,831
SECONDARY	178,478	231,877	285,439
TOTAL	1,934,309	1,987,708	2,041,270
<u>5000-15,000</u>			
DIRECT			
PRIMARY	1,455,064	1,455,064	1,455,064
SECONDARY	38,492	48,219	57,807
TOTAL	1,493,556	1,503,283	1,512,871
INDIRECT			
PRIMARY	0	0	0
SECONDARY	94,960	141,385	200,471
TOTAL	94,960	141,385	200,471
TOTAL			
PRIMARY	1,455,064	1,455,064	1,455,064
SECONDARY	133,452	189,604	258,278
TOTAL	1,588,516	1,644,668	1,713,342
<u>15,000+</u>			
DIRECT			
PRIMARY	1,991,567	1,991,567	1,991,567
SECONDARY	23,505	35,172	46,841
TOTAL	2,015,072	2,026,739	2,038,408
INDIRECT			
PRIMARY	0	0	0
SECONDARY	75,604	120,371	165,136
TOTAL	75,604	120,371	165,136

TOTAL			
PRIMARY	1,991,567	1,991,567	1,991,567
SECONDARY	99,110	155,543	211,977
TOTAL	2,090,677	2,147,110	2,203,544
AVERAGE			
DIRECT			
PRIMARY	1,739,573	1,739,573	1,739,573
SECONDARY	42,758	53,563	64,214
TOTAL	1,782,331	1,793,136	1,803,787
INDIRECT			
PRIMARY	0	0	0
SECONDARY	93,157	142,271	191,383
TOTAL	93,157	142,271	191,383
TOTAL			
PRIMARY	1,739,573	1,739,573	1,739,573
SECONDARY	135,915	195,834	255,597
TOTAL	\$1,875,488	\$1,935,407	\$1,995,170

5.4 NET REVENUE

Based on the preceding assumptions, a local area with 50% city dwellers in the 5,000-15,000 county population class (medium impact scenario) will receive \$1,644,668 in revenue versus \$912,288 in additional costs resulting in a net surplus of \$732,380. This is an example only. Further simulations are necessary before any meaningful conclusions can be reached. Chapter 6 considers these possibilities.

CHAPTER 6 NET REVENUE IMPACTS

6.0 GENERAL TENDENCIES

Usually total local revenues will exceed total local expenditures. A variety of plausible if not likely circumstances, however, may lead to a violation of that general tendency. This section explores these possibilities. The following assumptions or caveats are involved, many of which are relaxed later to more closely approximate reality.

- o Mill levies remain constant.
- o Taxable value and employment levels are based on Bureau of Mines statistics for the average mine.
- o Expenditures remain constant for cities, counties, and schools.
- o Population and employment impacts are based on the MASS II impact model developed for the Environmental Protection Agency and State of Montana - currently being used by the Coal Board and other state agencies.
- o Up-front or special pre-development costs are not considered; only long-run costs, (including capital) and long-run revenues over the mine's economic life are considered.
- o Only impact mitigation - not taxes designed for additional revenue generation or as compensation to non-renewable resource loss is considered.
- o All impacts are experienced in the county where the mine is located.

6.1 SENSITIVITY ANALYSIS

Even simple models of economic events, such as the present example, become complex when numerous possibilities are considered.¹⁵ This section focuses on a range of possibilities when:

- o Jurisdictional conflicts arise.
- o Local expenditures increase as a result of growth.

CASE A: Local per capita expenditures remain constant, i.e. at the present level

CASE B: 50% increase in local costs per capita as a result of growth

CASE C: 100% increase in local per capita costs as a result of growth

¹⁵ The interested reader may wish to review the printouts which are available upon request at the EQC offices. Since several hundred possibilities exist, only those combinations of events that appear to be relevant have been considered.

CASE A: Expenditures Remain Constant

- o Net county revenues are positive for all population classes and impact scenarios. (Table 4.1 Case A in supplemental computer listings)
- o Net school revenues are always positive assuming no jurisdictional conflicts. (Table 4.2)
- o Net city revenues are always negative ranging between -\$27,041 and -\$244,740 per year, depending on settlement patterns, population class, and local labor force participation. (Tables 4.3 - 4.5)
- o Combined county, city, and school revenues are always positive. (Tables 4.7 - 4.9)

CASE B: Expenditures Increase 50 Percent

- o Net county revenue in small counties is negative, but in large counties still positive. (Table 4.1, Case B)
- o Net school revenues are positive for all scenarios, again assuming no jurisdictional conflicts. (Table 4.2)
- o Net city revenues are negative ranging from -\$47,772 to -\$329,378 per year. (Tables 4.3 - 4.5)
- o Combined county, city, and school revenues are negative in approximately 19 percent of the cases. (Tables 4.7 - 4.9)

CASE C: Expenditures Double

- o Net county revenues are negative in 6 out of 9 cases. The larger counties still have a positive balance. (Table 4.1, Case C)
- o Net school revenues are positive in 8 out of 9 cases and negative for the small county class, less than 5,000, high impact scenario. Again this assumes no jurisdictional conflict. (Table 4.2)
- o Net city revenues are negative ranging from -\$68,503 to -\$540,015 per year. (Tables 4.3 - 4.5)
- o Combined county, city, and school revenues are negative in 12 out of 27 cases. (Tables 4.7 - 4.9)

6.2 MOST LIKELY CASE

The sensitivity testing in the previous section produces several hundred possible scenarios, all of which are plausible but, most of which are unlikely. For example, both the low and high impacts (high and low labor force participation rates) are not as likely as the medium scenario. It is more appropriate to look at average (medium) assumptions for the other variables, as opposed to the extremes. In that regard, the following analysis represents a best guess as to the fiscal impacts of the model mine.

Assumptions:

- 1) Impacts are computed for the average county
- 2) Impacts are based on 50% local hiring
- 3) 50% of new people live in primary city
- 4) Average per capita expenditures increase no more than 50 percent Case B; Case A - no increase in per capita expenditures - is likely

Tables 15 and 16 provide impact estimates under the most likely set of assumptions (above). As shown in Table 15, city impacts are always negative since the population influx and resulting expenditures are not offset by increased revenue. In Case B, the city impacts would be -\$177,737 per year, which represents both capital and operating costs. In either Case A or B, the county revenue balance will be positive. School revenues are shown to be positive; however, it is important to realize that this assumes no jurisdictional conflicts. In reality, some districts will gain substantially and others will lose depending on district boundaries. It can be expected, however, that the high school balance will generally be positive, but that the elementary balance will often be negative.

Table 16 illustrates the point that the mine workers and the mine itself will more than meet direct expenses. The indirect workers and families associated with a project (retail trade, services, government, etc.) do not generate sufficient revenue through automobile, home, and commercial property tax to meet costs. This is nearly always the case with secondary development, i.e., commercial activity does not pay for itself.

TABLE 15
NET REVENUE

	CASE A (No Change in Local Expenditures)	CASE B (50% Increase in Local Expenditures)
County	\$ 169,142	\$ 33,822
School	948,604	690,700
City	<u>-107,689</u>	<u>-177,737</u>
Region	\$ 1,010,057	\$ 546,785

TABLE 16
TOTAL EXPENDITURES AND REVENUES

CASE A
(No Increase In Expenditures)

	Revenue	-	Expenditures	=	Net
Direct* (Mine and Miners)	\$ 1,793,136	-	\$ 403,388	=	+ \$1,389,748
Indirect (Secondary Workers)	<u>142,271</u>	-	<u>521,963</u>	=	<u>- 379,692</u>
Total	\$ 1,935,407	-	\$ 925,350	=	\$1,020,057

*Note: 97% of direct revenue is generated by gross proceeds and mine property taxes.

CASE B
(50% Increase In Expenditures)

	Revenue	-	Expenditures	=	Net
Direct (Mine and Miners)	\$ 1,793,136	-	\$ 605,342	=	\$1,187,794
Indirect (Secondary Workers)	<u>142,271</u>	-	<u>783,281</u>	=	<u>- 641,010</u>
Total	\$ 1,935,457	-	\$1,388,622	=	\$ 546,785

6.3 CAPITAL COSTS

It should be noted that the expenditure data (county, city, and school) includes capital costs. Unpublished data from the Montana Department of Administration and from the Office of the Superintendent of Public Instruction indicate that capital facilities as a percent of total costs are in 12-14 percent range. Given the average per capita expenditure level (average city, county, and school) of \$1,338 per year and assuming that capital facilities are bonded (20 years @ 10%) the capital cost (per capita) would be approximately \$1,500 under Case A, \$2,250 under Case B, and \$3,000 under Case C, i.e., when costs double. These estimates should be regarded as crude; however, they are within the range of capital costs as reported recently in a special report on boom towns published in Western Wildlands.¹⁶ Unfortunately, no other information on capital costs versus population influx is available.

6.4 JURISDICTIONAL CONFLICTS

Diagram 6 on the following page highlights the jurisdictional mismatch problem inherent in the Hard-Rock Mining Impact Act (discussed in the following section). Even though the entire region will experience net benefits, cities and elementary schools will experience net costs. In those cases where impacts cross county lines, this problem becomes even more acute.

Unless revenues are equitably distributed among affected jurisdictions, the following effects may result:

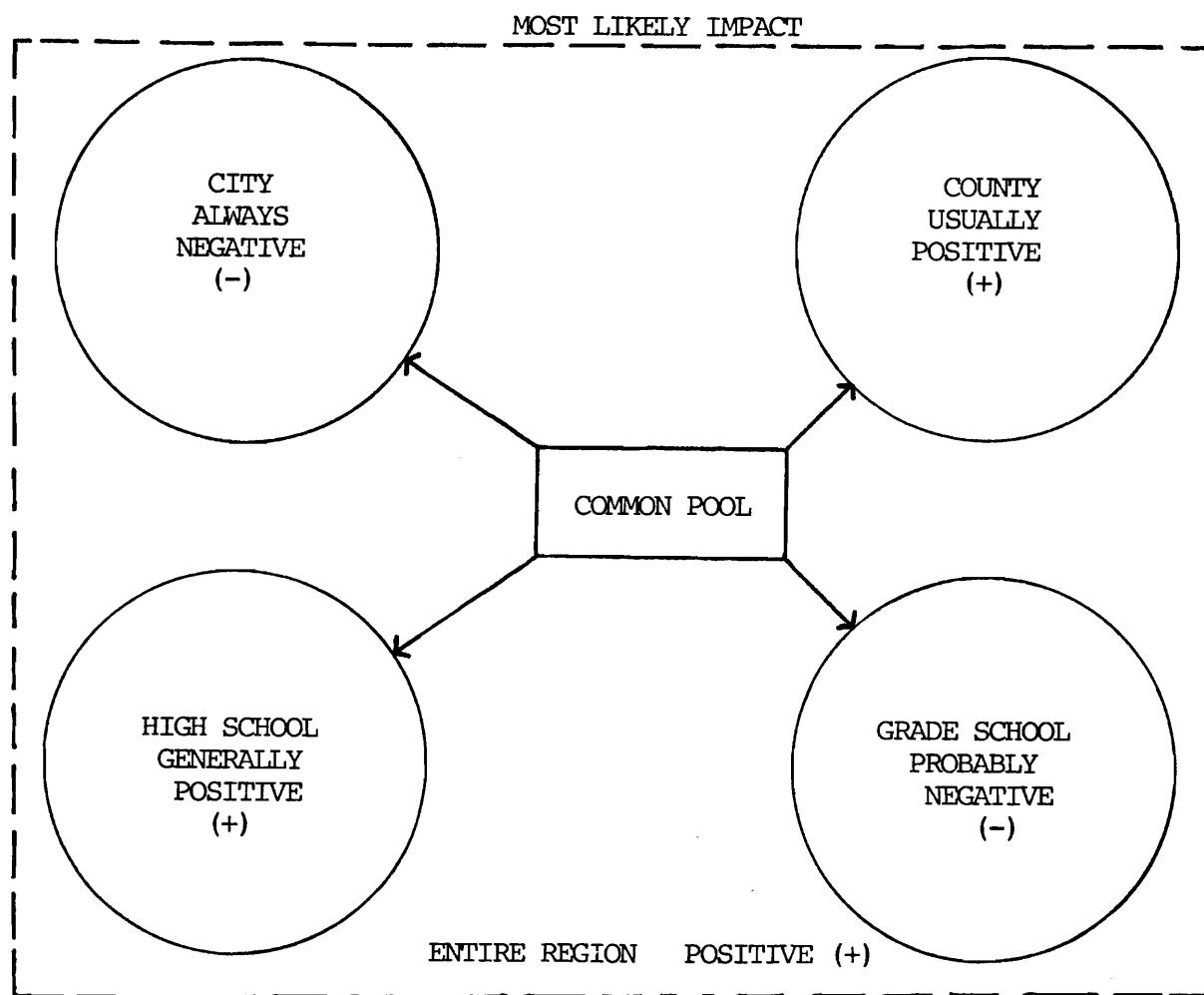
- o Some counties will reduce their mill rates and simultaneously increase per capita expenditures.
- o Schools fortunate enough to be in the same district as the mine will probably reduce mill rates and increase per capita expenditures.
- o Cities and school districts that do not receive direct revenue from the mine will either increase mill rates, cut budgets, or do both.

If, however, revenues are distributed equitably, then actual tax payments paid by a mining operation may increase since:

- o Those cities and school districts previously not receiving revenue but experiencing impacts will now receive (at mine operation expense) funds.
- o Counties and school districts previously experiencing surplus revenue potential will probably now increase their mill levies.

¹⁶ Dorothy Reid, "Boomtown, Wyoming", Western Wildlands, University of Montana, Summer 1982, p. 14.

DIAGRAM 6



6.5 PERSPECTIVE ON THE GROSS PROCEEDS TAX

As discussed earlier, current taxes on mining in Montana are somewhat higher than in surrounding states. This is particularly true for copper mining, even though copper taxes (gross proceeds) were significantly reduced by the 1977 Legislature. During periods of low mineral prices, the gross proceeds tax represents a regressive tax on the industry. At the same time, however, it represents only a very small component of mining taxation in Montana. Even at the local level, the effect of the gross proceeds tax is relatively minor. The recent DSL Anaconda/Stillwater Impact Statement makes this clear. Of the \$6,853,000 projected increase in the Stillwater County tax base, only \$853,000, or approximately 12 percent of the total, results from gross proceeds. The remainder comes from the taxable value associated with the mine and mill. 17

Given this \$853,000 tax base contribution, actual taxes paid applying different mill rates result in a seemingly small local revenue impacts as shown in Table 17 below.

TABLE 17
GROSS PROCEEDS AND TAXES PAID
ANACONDA/STILLWATER
GROSS TAX RATE

Local Mills	Current	Current	Current
	1.5%	3%	6%
Actual Taxes Paid			
200	\$ 85,300	\$ 170,600	\$ 341,200
300	127,950	255,900	511,800
400	170,600	341,200	682,400

Source: Derived from above assumptions.

In the most realistic case (200 mills), cutting the current rate in half or conversely doubling the rate would result in annual revenue changes of between \$85,300 and \$170,600. These changes appear small for either a mine or local government. Of course, if mineral prices were to double, the actual tax collections would clearly have more significance to both the industry and local governments. Conversely, if prices were cut in half, local revenue would be proportionately reduced.

17 Anaconda/Stillwater, Draft Environmental Impact Statement, Department of State Lands, 1982, Chapter IV, p. 48.

The comparisons found in Table 17 highlight the fact that local revenue is more dependent on traditional property taxation than on gross proceeds collections. Gross proceeds rates could be reduced, or a net proceeds concept adopted with limited adverse local revenue impact. By the same token, any reduction from the current three percent rate may have a positive effect on mineral development, an effect more of image (i.e., business climate) than substance.

CHAPTER 7
HARD-ROCK MINING IMPACT ACT (HB 718)

7.0 OVERVIEW

A substantial portion of the Hard-Rock Mining Subcommittee's (HRMS) HJR 66 study efforts were devoted to a close examination of the Hard-Rock Mining Act, 90-6-301, et seq. MCA. This Act was designed by the 1981 Legislature to mitigate the social and economic impacts that local government units may experience as a result of large-scale hard-rock mining developments. Specifically it seeks to satisfy the financial needs of affected governments that experience increased capital and operating costs due to mining. Under the Act:

1. A Hard-Rock Mining Impact Board is created; 2-15-1822.
2. Large-scale mineral developers are required to prepare an Economic Impact Plan before commencing mining operations. The Impact Plan must identify the impacts that will result from the proposed mining activities and must outline an appropriate set of mitigation measures that the developer will be responsible for implementing; 90-6-307.
3. The Hard-Rock Mining Impact Board must approve of the Impact Plan before mining may commence; 82-4-335(1).
4. If there are objections to an Impact Plan, the Hard-Rock Mining Impact Board will be required to conduct a hearing and make a determination as to the validity of the objections. Following the hearing, the Board must either approve of the plan as submitted or make appropriate amendments and then grant approval. Mining may commence only after approval has been given; 90-6-307(4) and 82-4-335(2).

Having analyzed the statute in great detail, it is the opinion of the Subcommittee that this legislation constitutes an appropriate and effective vehicle for administering, overseeing, and enforcing the mitigation of impacts at the local government level. The Act ensures that there will be a fair and accurate assessment of impacts and it provides that the planning for and mitigation of those impacts will be conducted in a timely manner. Since its passage however, there have been no mining permit applications submitted by new large-scale mineral developers and as a result the Act has not yet been implemented and tested. For this reason the Subcommittee feels it would be premature and inappropriate to propose major legislative changes at this time.

In anticipation of the Act's application however, the Subcommittee has identified a number of issues and concerns relative to the statute. These can be separated into two categories; those that require immediate legislative correction and those that do not. Below is a synopsis of all of the issues identified and an explanation of the Subcommittee's action on each issue.

7.1 Issues/Concerns That Require No Corrective Action

A. Inadvertent/Indirect Impacts

ISSUE

HB 718 requires new large-scale mineral developers to provide financial or other assistance to local government units in order to accommodate the increased demand for services which will occur as a result of the mineral development. Must the developer mitigate all impacts, direct and indirect, that can be shown to result from the development, regardless of how attenuated the causal connection may be?

HRMS RESPONSE

A mineral developer is required to mitigate some indirect impacts resulting from mineral development. Certain indirect impacts that may result from the "family multiplier" effect, for instance, can fairly and appropriately be made the responsibility of the developer to mitigate. Mitigation of other more remote effects, eg. the "grapevine impact", cannot fairly be made the responsibility of the developer.

A determination of the extent of the indirect impacts that are to be mitigated can only be made on a case by case basis. If a dispute should arise between the parties concerning the scope of impacts to be mitigated, it shall be resolved by the Hard-Rock Mining Impact Board according to its objection procedures.

B. Judicial Review of Impact Board Decision

ISSUE

If a local government unit and the developer cannot resolve their differences relative to a submitted impact plan, then the Hard-Rock Mining Impact Board must hold a hearing on the validity of the objections raised. Following the hearing the Board must make findings and if appropriate, amend the plan accordingly. Either party, if aggrieved by the decision of the Board, is entitled to judicial review. The decision of the Board, however, is not automatically stayed pending a judicial review. Should there be an automatic stay provision in such cases? An automatic stay would protect an aggrieved local government unit from possibly incurring impacts that a court may ultimately find were inadequately treated in an impact plan.

HRMS RESPONSE

An automatic stay provision is not desirable for the reason that it could result in unreasonable delays arising out of unmeritorious appeals. Furthermore, the Administrative Procedure Act already provides for a stay in those cases where an aggrieved party can show that it has a meritorious claim and such action is necessary to prevent irreparable harm. This remedy provides sufficient protection for the rights and interests of all parties.

C. Definition of Large-Scale Mineral Development

ISSUE

HB 718, (Section 3(4)), defines a large-scale mineral development as: "the construction or operation of a hard-rock mine and the associated facility that will:

(a) Employ at any given time at least 100 people; or (b) Cause, or be expected to cause, an increase in estimated population of at least 15% in a local government unit when measured against the average population of the local government unit in the three year period immediately preceding the commencement of the construction of the mining facility." (A mining operation that would otherwise constitute a large-scale mineral development under this definition is not subject to HB 718 if it results in not more than 50 acres of surface disturbance and removes less than 36,500 tons of material from the earth. 82-4-303 (10), MCA, 1981)

Some hard-rock mining activities that do not qualify as "large-scale" under the Act may nonetheless result in significant impacts. Perhaps the definition should be modified to remove any void in coverage that may exist.

HRMS RESPONSE

While it is difficult to define a term such as this in a manner that is not under or over inclusive, the existing definition appears to represent a fair balance of those concerns. Perhaps in the future a need for a redefinition will arise. At that time an amendment will be appropriate.

D. Impact Plan Submittal

ISSUE

Section 8 (1) requires large-scale mineral developers to submit an impact plan to all affected counties and the Hard-Rock Mining

Impact Board. The counties then must make available a copy of the plan to all other affected government units. Because the 90-day impact plan review period for all government units commences on the date the county receives its plan, it is possible that some units will have less than 90 days for review. Is this consistent with the intent of the legislature, which apparently was to give each government unit 90 days to review and object to a plan?

HRMS RESPONSE

While the legislature sought to provide all affected government units with a reasonable time frame for reviewing and objecting to impact plans, it also chose to give a "lead agency" role to the counties in this regard. This was done in an effort to prevent confusing the costly situations from occurring. Such would be the case if separate delivery to each government unit were required since this could result in numerous, non-current time frames. If necessary, the Hard-Rock Mining Impact Board may adopt an appropriate procedural rule to ensure that all government units receive a copy of the plan at the same time.

E. Tax Prepayment

ISSUE

There appears to be some uncertainty regarding the proper use of tax prepayments as an impact mitigation measure. If the applicable statutory language is in fact unclear, then an amendment that removes any ambiguity might be adopted.

HRMS RESPONSE

The tax prepayment provision which is clearly set forth in §§8 (2) and 10 (1) constitutes an effective means of dealing with impacts and requires no modifications at this time.

F. Scheduling of Hearing on Impact Plan Objections

ISSUE

There is no time requirement established in HB 718 for scheduling a hearing on objections. Although the Hard-Rock Mining Impact Board must comply with a standard of reasonableness in the absence of an express directive, this may not eliminate the need for specifying a time frame in this instance.

HRMS RESPONSE

The standard of reasonableness affords adequate protection for the interests of all parties and provides the Board with the flexibility necessary to deal with practical, logistical considerations that may affect the scheduling of a hearing. For these reasons, no legislative action is warranted at this time.

G. Issuance of Board's Findings on Objections

ISSUE

It is unclear whether or not the Board must make its findings and amend an impact plan within 60 days after a hearing.

HRMS RESPONSE

It is appropriate for the Board to deal with this matter according to its general statutory authority. For this reason, no legislative action is warranted at this time.

H. Definition of Written Guaranty (§8 (6))

ISSUE

Term too vague. Conflicting interpretations could result in costly delays.

HRMS RESPONSE

The Hard-Rock Mining Impact Board can most appropriately define this term to eliminate any ambiguity. For this reason, no legislative action is warranted at this time.

I. Definition of Evidence (§8 (9))

ISSUE

Term too vague. Conflicting interpretations could result in costly delays.

HRMS RESPONSE

The Hard-Rock Mining Impact Board can most appropriately define this term to eliminate any ambiguity. For this reason, no legislative action is warranted at this time.

J. Definition of Opening Date of Development (§8 (1))

ISSUE

Is the opening date of development the date mining commences or the date construction begins?

HRMS RESPONSE

Conflicting interpretations of this term would not likely result in adverse consequences to any party. Notwithstanding this, however, the Hard-Rock Mining Impact Board is empowered to deal with this in an appropriate manner. For this reason, no legislative action is warranted at this time.

7.2 Issues/Concerns That Require Corrective Action

A. Impact Plan Amendments

ISSUE

Presently in HB 718 there is no provision for amending an impact plan after approval has been granted. All parties could benefit from a provision that enables an impact plan to be appropriately modified when it is established that the plan is inadequate or inaccurate in some material respect.

HRMS RESPONSE AND PROPOSED AMENDMENT

A provision for amending an impact plan in certain cases is needed. The following amendment is therefore proposed: New Section. Section 9. Impact Plan Amendments.

(1) If it becomes apparent that an approved impact plan is materially inaccurate because of errors in assessment or substantial changes in circumstances then either the mineral developer or the governing body of an affected county may petition the Board for an amendment to the plan. The Board shall within 10 days publish notice of the petition at least once in a newspaper of general circulation in the affected county. The petition shall include:

- (a) An explanation of the need for an amendment,
- (b) A statement of the facts and circumstances underlying the need for an amendment,
- (c) A description of the corrective measures proposed by the petitioner.

(2) An affected local government unit or the mineral developer shall, within 60 days after notice that the petition has been received, notify the Board in writing if such person objects to the amendment(s) proposed by petitioner, specifying the reasons why the impact plan should not be amended as proposed. If no objection is received within the 60-day period, the impact plan shall be amended by the Board as proposed by the petitioner.

(3) If objections are received, the Board shall within 10 days notify the petitioner and forward a copy of all objections received by the Board. If the objecting party(s) and the petitioner cannot resolve the objections within 30 days after the expiration of the 60-day period, the Board shall conduct a hearing on the validity of the objections within 30 days thereafter. The hearing shall be held in the affected county or, if objections are received from local government units in more than one county, shall be held in the county which, in the Board's judgment, is more greatly affected. The provisions of the Montana Administrative Procedure Act shall apply to the conduct of the hearing.

(4) Following the hearing, the Board shall make findings as to those portions of the amendment(s) which were objected to and, if appropriate, amend the impact plan accordingly. The findings and impact plan, as amended, shall be served by the Board upon all parties. Any local government unit or the developer, if aggrieved by the decision of the Board, is entitled to judicial review, as provided by Title 3, Chapter 4, Part 7, in the District Court in and for the Judicial District in which the hearing was held.

The language in the above proposed amendment refers to "the governing body of an affected county", see paragraph (1). In § 10, paragraph (1), line 13 of HB 718, the "Board of County Commissioners" is referred to. Because all counties do not have a Board of County Commissioners for a governing body, it is suggested that the language in paragraph (1) of the proposed amendment be substituted for the language in § 10 of HB 718 as follows:

In paragraph (1), line 13, strike: "Board of County Commissioners" and add in its place: "governing body".

B. Timing of Impacts vs. Timing of Mitigation

ISSUE

HB 718 requires the Department of State Lands to condition the issuance of large-scale hard-rock mining permits such that mining may not commence until an impact plan has been submitted to and approved by the Hard-Rock Mining Impact Board. Immediately upon approval of an Impact Plan and following submission of a written guaranty that the plan will be complied with, the condition will be removed. This is done to ensure that impacts will be properly mitigated in a timely manner. For two reasons however, this goal may not be realized:

First, while the condition imposed on mining permits may prohibit "mining" per se, it does not restrict the commencement of pre-mining activities. These activities may in fact result in comparable or even greater impacts than those which arise from actual mining operations.

Second, as soon as the condition is removed, rapid development may occur which could result in substantial impacts. These impacts could occur before the local government units have had an opportunity to implement mitigation measures.

HRMS RESPONSE AND PROPOSED AMENDMENT

The legislature in passing HB 718 sought to design a set of measures which would ensure proper and timely mitigation of hard-rock mining impacts. By imposing the above-referred to

condition on the issuance of hard-rock mining permits, it was expected that impacts would be prevented until acceptable mitigation plans were available. To further ensure however that pre-mining activities do not commence prior to impact plan approval, the following amendment is proposed:

In Section 13, paragraph (2), line 23, strike "mining", and in its place add: "activities under the permit."

The second situation described above is satisfactorily dealt with by the impact plan requirements and the objection procedures of HB 718. Because it would be reasonable for a government unit to object to a plan that did not adequately and timely mitigate all impacts, the Hard-Rock Mining Impact Board will be required to sustain such an objection when it is raised. Moreover, as a practical matter, it is unlikely that a developer will desire to commence operations until appropriate mitigation of the associated impacts can be provided for.

C. Pre-Development/Planning Costs to Local Government Units

ISSUE

There is presently no requirement in HB 718 that developers provide upfront financial assistance to local government units to assist them with preparation for an review of what may be a detailed and complex Impact Plan. Are mineral developers nonetheless responsible for these costs?

HRMS RESPONSE AND PROPOSED AMENDMENTS

While there is not presently a specific requirement that developers provide upfront financial assistance to local government units, the need for assistance in and of itself constitutes an impact that must be mitigated under HB 718. In order to provide a vehicle for mineral developers to receive credit for pre-development financial assistance, the following amendment is proposed:

In Section 8, add a new paragraph (3) as follows: "Upon request of the governing body of an affected county, the mineral developer shall provide financial or other assistance as necessary to prepare for and evaluate the impact plan. To receive this assistance, the affected county shall contract with the developer and provide that any disbursements will be credited against future tax liabilities."

D. Permit Procedure and Impact Plan Review

ISSUE

Section 8 (1) states: "when an application for a permit is made under 82-4-335 and the permit is for a large-scale mineral development, the person seeking the permit shall submit ...an Impact Plan...."

This language suggests that an Impact Plan is to be submitted concurrent with the filing of a mining permit application. It appears however that the legislature intended that an Impact Plan be submitted sometime after a permit application is filed.

Also, there may be a potential for duplication of agency efforts due to an overlap of the HB 718 Impact Plan requirement with the MEPA/EIS requirement.

HRMS RESPONSE AND PROPOSED AMENDMENTS

It is true that the use of the term "when" in Section 8 (1) inaccurately suggests that impact plans and mining permit applications are to be submitted concurrently. To remedy this and, further, to minimize the potential for duplication of agency efforts relative to the impact plan and EIS requirements, the following amendments are proposed:

In Section 8, paragraph 1, line 14, strike: "when" and add in its place: "after".

In Section 8, paragraph 1, line 21, after "Board" (and after amendatory language proposed under Issue C above) add: "If an Environmental Impact Statement on the permit application is prepared under 75-1-201, the lead agency shall cooperate to the fullest extent practicable with the affected local government units to eliminate duplication of effort in data collection."

E. Adequacy of 90-Day Review

ISSUE

Section 8(3) establishes a fixed 90-day period for reviewing and objecting to an impact plan. Is this sufficient time for a fair and reasonable review?

HRMS RESPONSE AND PROPOSED AMENDMENT

There may be instances where 90 days is insufficient to enable a fair and reasonable review to take place. For this reason, the following amendment which creates a provision for extending the review period, is proposed:

In Section 8, paragraph 3, line 1, after "to." add: "An affected local government unit may, during the 90-day period, petition for one 30-day extension by submitting a request in writing to the Board that states the need and justification for such action and the Board shall grant the 30-day extension unless there is no reasonable basis for the request."